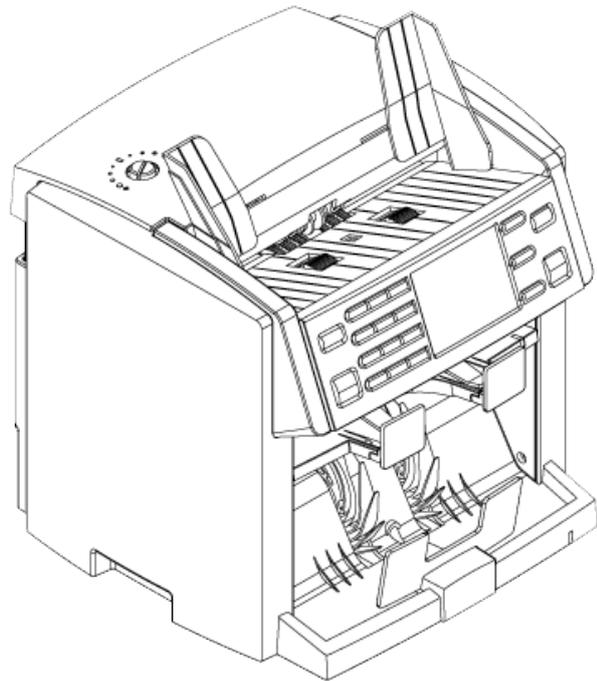


# X-1

## Currency Discriminating Counter w/Reject pocket

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*Instruction Manual Vol 1.2*



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## ○ Introduction

This guide covers the installation, operation and troubleshooting of X-1 Series Currency Discriminator. We recommend reading this guide thoroughly before operating the Currency Discriminator. Then, as you become more familiar with X-1, use it as a reference guide to look up information when you need it.

## **FC** Compliance Statement

**THIS DEVICE COMPLIES WITH PART 15 OF FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING CONDITIONS:**

1. THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
2. THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

### **FCC Notice**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can emit radio frequency energy and, if not installed and used in accordance with the instruction manual may cause harmful interference in radio communications.

Operation of this equipment in a residence area is likely to cause harmful interference in which case the users will be required to correct the interference at their own expense.

Changes or modifications of this product not expressly approved by manufacturer, could void the user's authority to operate the equipment.

## **Abbreviations and Acronyms**

USB	Universal Serial Bus
IR	Infrared
MG	Magnetic
MB	Megabyte
PC	Personal Computer

## ○ Safety Precautions

Please read the safety precautions below before operating X-1 Currency Discriminator. These safety precautions guideline must be observed to avoid any potential hazards that could resulted in personal injuries or damage to X-1 Currency Discriminator.



### **Electrical Safety!**

To avoid the risk of electrical shock, fire, or damage to X-1 Currency Discriminator:

- ① Do not remove the side, and bottom covers in any situation.
- ② Do not disassemble X-1 by yourself.
- ③ Do not use damaged or worn power cords or plugs. Use the power cord supplied inside the original packaging carton and connect to a properly grounded power outlet or to a power strip. The power source for X-1 is between AC 90V~240V, 60 Hz.
- ④ Keep metal objects, such as paper clips, away from the hopper and stacker. If an object does fall into the unit, turn off the power and unplug X-1 immediately. Contact your authorized X-1 service provider for assistance.
- ⑤ Keep liquids away from X-1. Do not operate the Currency Counter if it is wet. Also, do not touch the Currency Discriminator if you are wet. If a spill occurs, turn off the power and unplug X-1 immediately. Contact an authorized X-1 service provider for help.

### **WARNING**



### **Warning!**

The Currency Discriminator may start operating accidentally in certain circumstances as described below. Therefore, it is important to always follow these below precautions:

- ① Do not wear loose clothing or jewelry while operating the Currency Discriminator.
- ② Make sure that your hair does not touch the Currency Discriminator.
- ③ Do not touch banknotes that have been placed in the stacker while the motor is running.
- ④ Turn off the power before performing any maintenance or error corrections that require you to put your hands into the device.
- ⑤ Keep X-1 away from magnets, activated cellular phones, electrical appliances, or speakers within 13 cm / 5 inch.



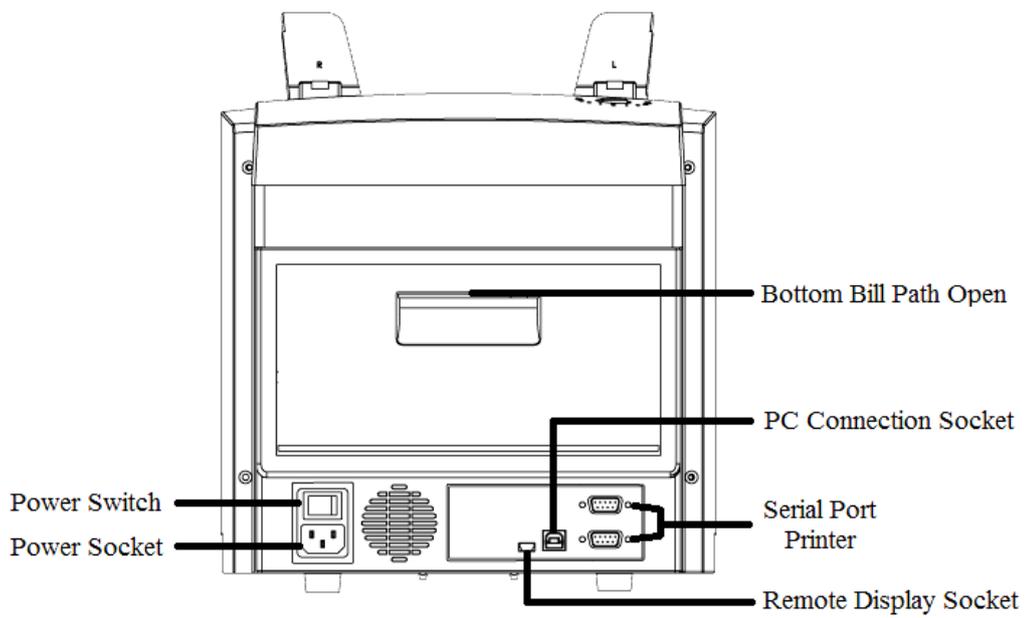
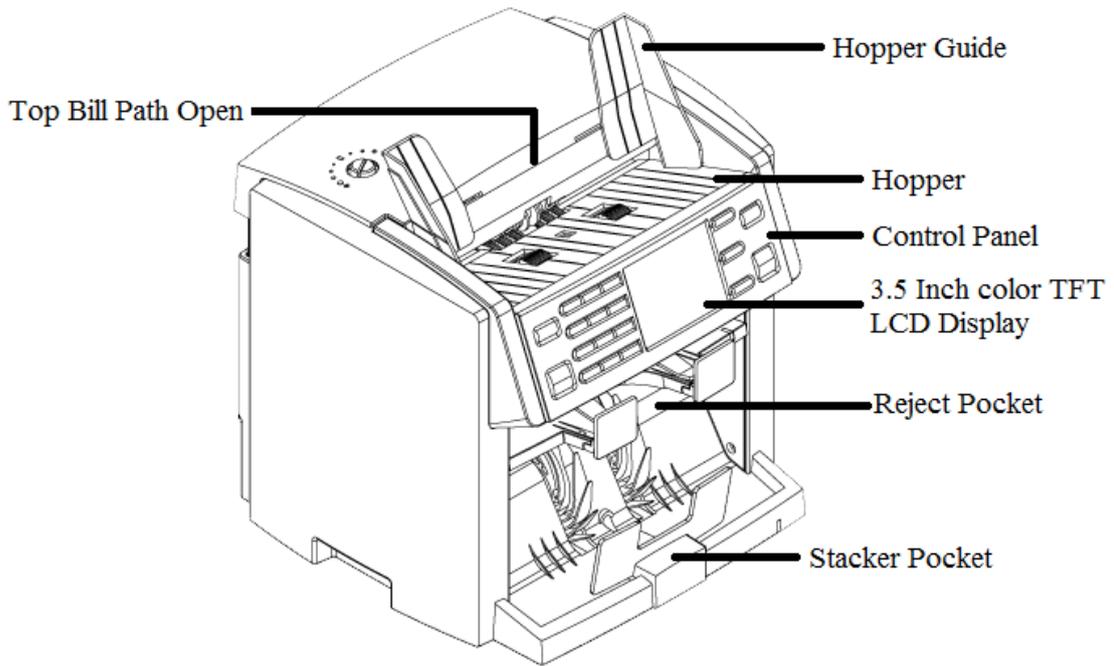
### **Cautions!**

- 
- Keep drinks, food, and other foreign objects away from the Currency Discriminator.
  - Placing foreign objects on or into the Currency Discriminator can interrupt operation of the device.
-

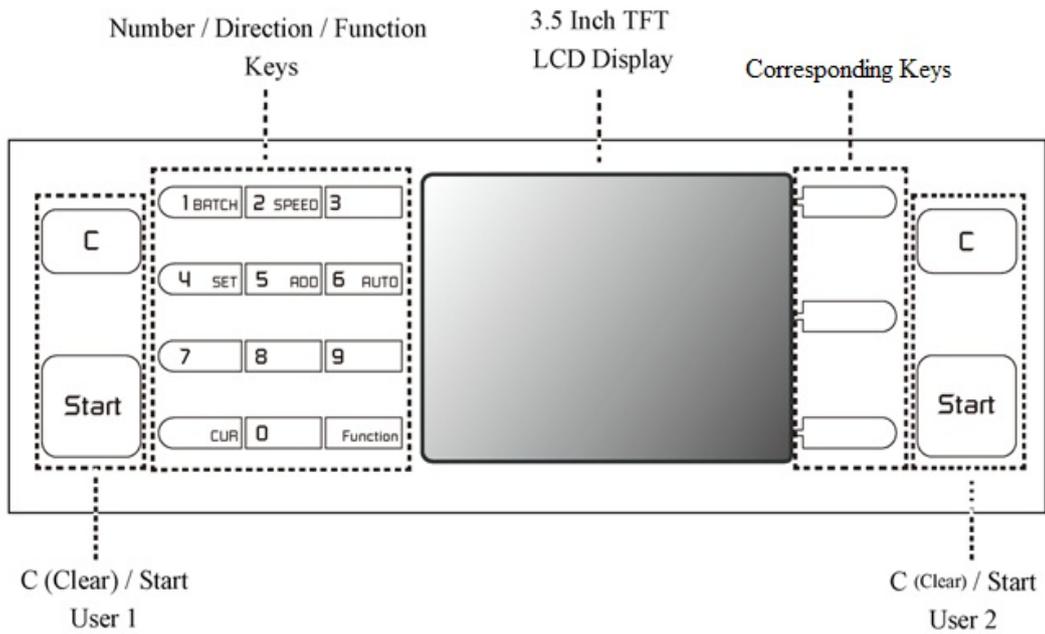
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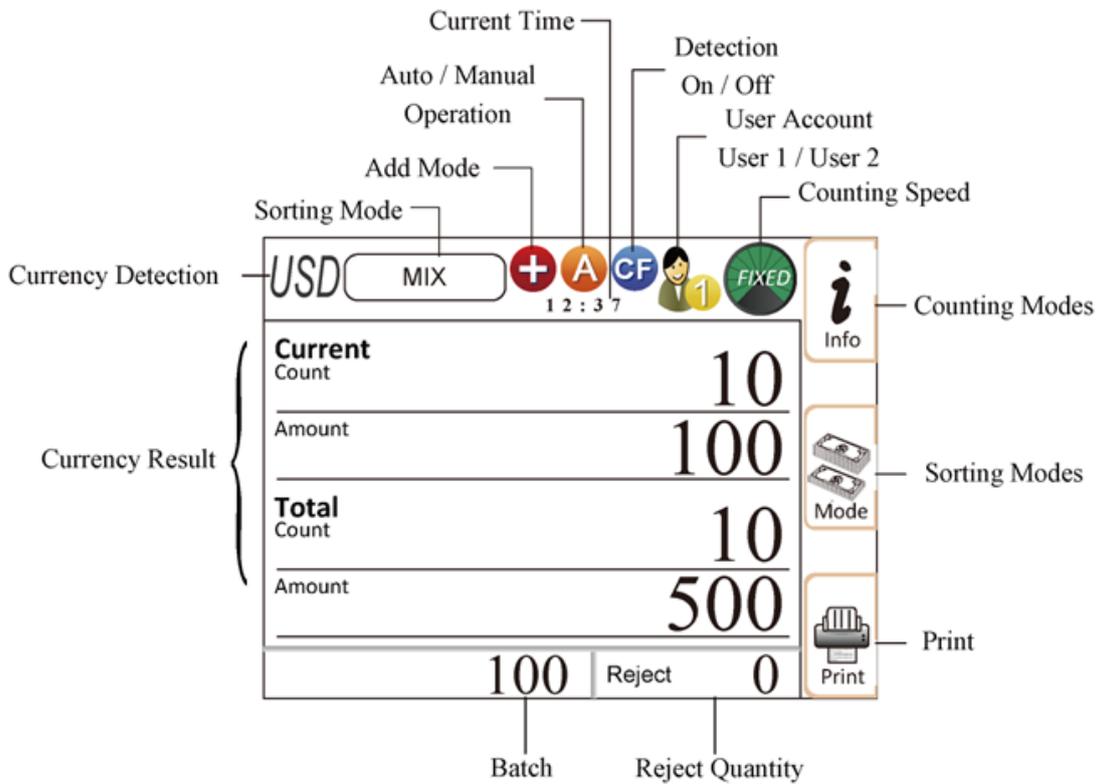
## ○ X-1 at a Glance



## ○ Overview of Control Panel



## ○ Overview of LCD display



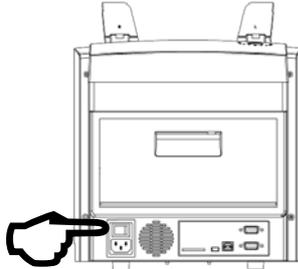
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## ○ Power On / Off

To Power on X-1 Currency Discriminator,

- ❶ Plug one end of the power cord into the A/C socket of the rear side of the device and the other end into a standard AC power wall outlet (properly grounded) or to a power strip.
- ❷ Turn the Power Switch key On ("I") located at the right rear side of the device.
- ❸ After initializing, X-1 will enter into main display.



To Power off X-1 Currency Discriminator,

- ❶ Confirm that all of the counting results are saved prior to powering off the device.
- ❷ Turn the Power Switch key to Off ("O") to power off.

## ○ Placing Bills in the Note Hopper

To operate the currency Discriminator device efficiently, please follow the below instructions:

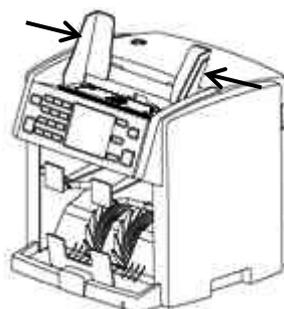
- ❶ Avoid counting wet, excessively dirty or spoiled banknotes.
- ❷ Check for foreign object mixed with banknotes, i.e.: paper chips, rubber bands, clips, dust, etc. which will jam the bill path or even may damage the sensors.
- ❸ Prior counting, remove severely folded or curled banknotes from the stack of banknotes to be counted.



- ❹ Align all corners and edges of banknotes to avoid excessive rejection of banknotes to reject stacker for image recognition errors.



- ❺ Put all banknotes in the middle of the note hopper and adjust the hopper guide for better alignment and feeding of banknotes.

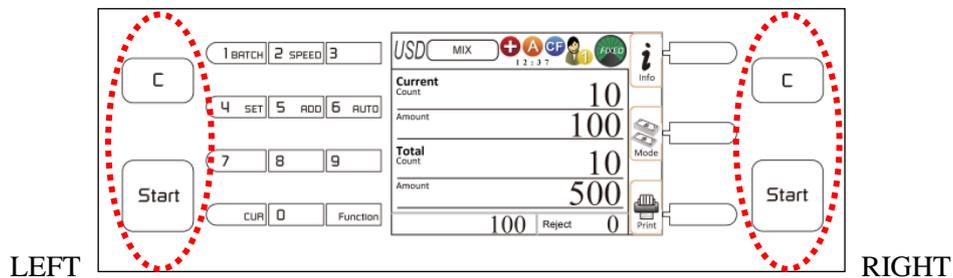


## ○ Dual Users Operation

X-1 Currency Discriminator supports simultaneous counting operation for two users. Two users can take turn and operate X-1 while maintaining their own setting preferences. The results will not interfere with each other. At the end of counting operation, the counting results of the two users are saved separately. The device is equipped with dual-RS232 ports at the rear side of the device that connect to two thermal or dot-matrix printers. Users also able to set one single printer to print results from both users. Please check P.23 to learn more about how to set-up thermal or dot-matrix printers for two users). To describe the Dual Users function in details,

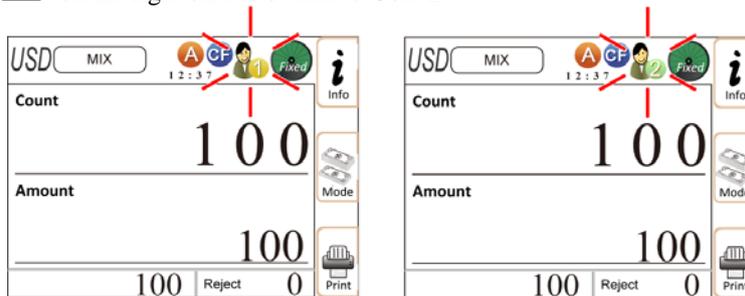
Control panel of X-1 device is equipped with two sets of  and  keys which are used to control the operation of two users.

- The LEFT set of keys is for  (User 1).
- The RIGHT set of keys is for  (User 2).



### ① (User 1 - LEFT).

- Press the  key located on the left side to start counting operation.
-  &  keys located on the left side are utilized to confirm or cancel entire counting operation for the User 1 respectively.
- Press the  on the right side to switch to User 2.



### ② (User 2 - RIGHT).

- Press the  key located on the right side to start operation.
-  &  keys on the right side are utilized to confirm or cancel entire counting operation for the User 2 respectively.
- Press the  key on the left side to switch to User 1.

### ↶ Clearing result.

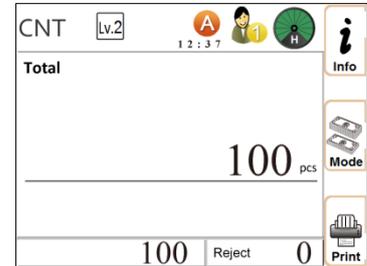
- Press  to clear results of the current User ( / .

## ○ CNT Mode and Density selection:

### ● CNT - Count Mode

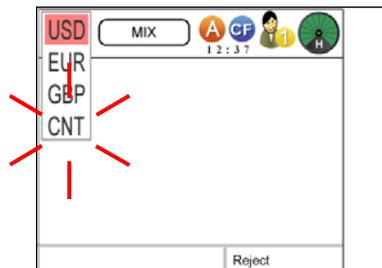
In CNT mode, X-1 counts the number of banknotes (qty) without identifying denomination or valuation of banknotes in a stack. During and once counting is completed, X-1 displays total counted quantity on the display screen. If [ADD] function is turned on, the counted quantity for the current stack is added to the running total, displays and save into device memory.

Note that,  key is used to select [CNT] mode. Press the [CUR] key once to reach to [CNT] mode. Alternatively, [CUR] key can also be used to toggle between CNT (Count Mode) and other Discrimination Modes.



 → CNT → MIX / SINGLE / (Other Modes if activated)

Further, if multiple currencies software were purchased and pre-loaded to this device, press and hold the  key to toggle between CNT and different currencies as shown on the left top of the LCD display screen:



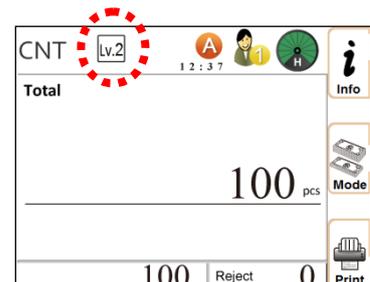
- Use the direction keys  or the  to highlight CNT mode or select other currencies software (if pre-loaded from factory).
- Press the  key to confirm the selection. Device returns to main screen.

### ● Density Level: (only in CNT mode)

X-1 device is defaulted with proper density setting to count different conditions of circulated notes from factory. Software, however, does allow user to select a different density level to adjust double detection if necessary. In such case, while in CNT mode,

Press [Mode] corresponding key to select between four different double detection level. If the device cannot detect double feeding error correctly, then set double detection level to "Lv1" represents "LIGHT"; on the contrary if the device detects double even though banknotes are not double fed, then set double detection level to "Lv3" or "Lv4" represents DARK or VERY DARK respectively. Use the [Mode] corresponding key to set the appropriate double detection level ("LvX").

-  : LIGHT
-  : NORMAL (Default)
-  : DARK
-  : VERY DARK

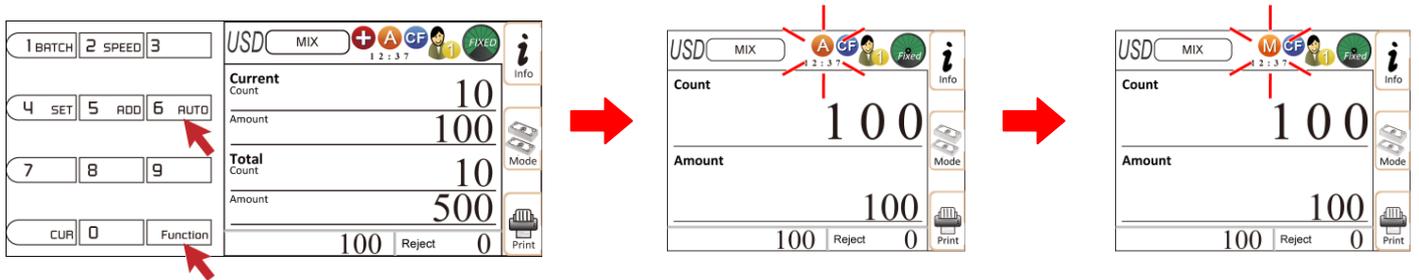


## ○ Auto / Manual Start Mode

To operate X-1 device between Automatic and Manual Start counting mode, press the

**Function** key followed by **6 AUTO** to switch between Auto / Manual Start Mode.

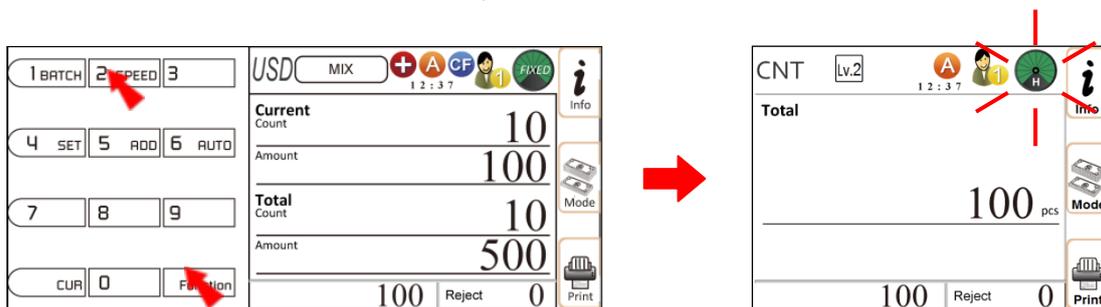
- When set as **A** (Auto Start Mode), the device starts feeding and counting banknotes after detecting banknotes in the hopper or when **Start** key is pressed.
- When set as **M** (Manual Start Mode), the device starts feeding and counting banknotes only after the **Start** key is pressed.



## ○ Counting Speed (CNT mode only)

The X-1 device is defaulted from factory to count circulated banknotes [CNT mode] at high-speed, however, software allows user to adjust counting speed to count banknotes at lower speed if necessary. Note that, the counting speed of X-1 device is fixed for all discriminating modes at about 750 banknotes per minute and not adjustable. To adjust variable counting speeds in [CNT] mode,

- ➊ Press the **Function** key followed by **2 SPEED** key to change counting speed.
- ➋ Three different counting speeds (H, N and L) are shown sequentially on the right top of the LCD display screen as below:
  - **L:** 700 banknotes / min.
  - **N:** 850 banknotes / min.
  - **H:** 1000 banknotes / min. (factory default)

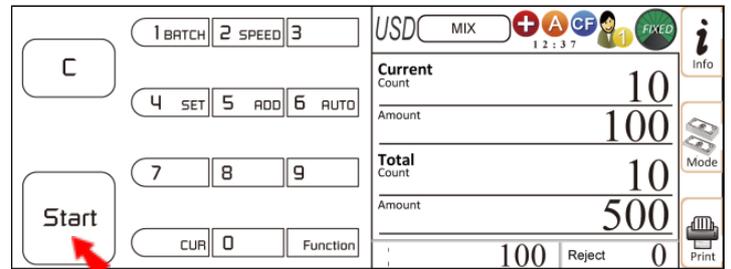
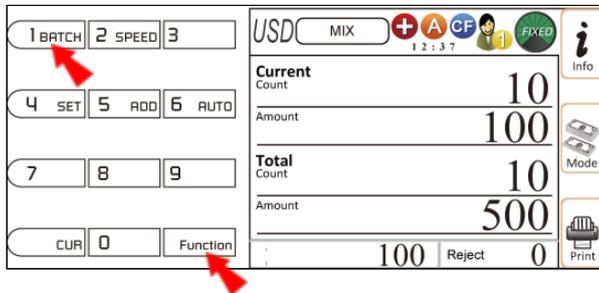


- ➌ Once selection of speed is completed, start counting banknotes at that speed immediately.

## ○ Batch Counting

X-1 device allows users to set counting of banknotes by a set batch number (quantity) and apply to all counting modes.

- ➔ The **Function** and **1 BATCH** keys are used to set a particular batch number (max. 200).
- ➔ **Start** key is used to confirm the setting and to return to menu.



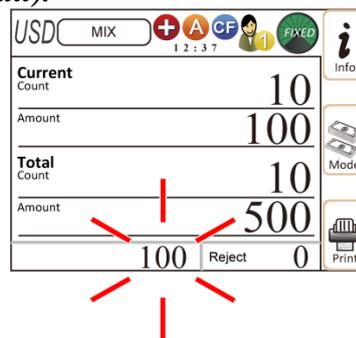
The preset batch is shown on the bottom of the LCD display

### ● How to set a batch by pieces:

Follow the below steps to set a batch by number (quantity):

- ❶ To set a batch by number (quantity), press the **Function** key followed by **1 BATCH** key to enter into batch setting mode.
- ❷ Press number keys (0-9) on the control panel to set preset batch number and press **Start** to confirm and return to main menu screen. Preset batch setting now allows users to count banknotes by the preset batch number set.
- ❸ The device stops when the counted number reaches the preset quantity and continues batch count until hopper is empty. Add more banknotes in the note hopper for an incomplete batch or remove all banknotes from stacker to start a new batch count.

**CAUTION!** *The preset batch number should not exceed the maximum stacker pocket capacity of 200pc (factory default).*



### ● How to clear a preset batch setting:

Follow the below steps to clear a preset batch setting:

- ❶ Press **Function** key followed by the **1 BATCH** key to enter into batch setting mode.
- ❷ Press **Function** and then **1 BATCH** again to deactivate batch and save preset batch number, or press the **C** key to clear the preset number.
- ❸ Press the **Start** to confirm the setting and begin operations.

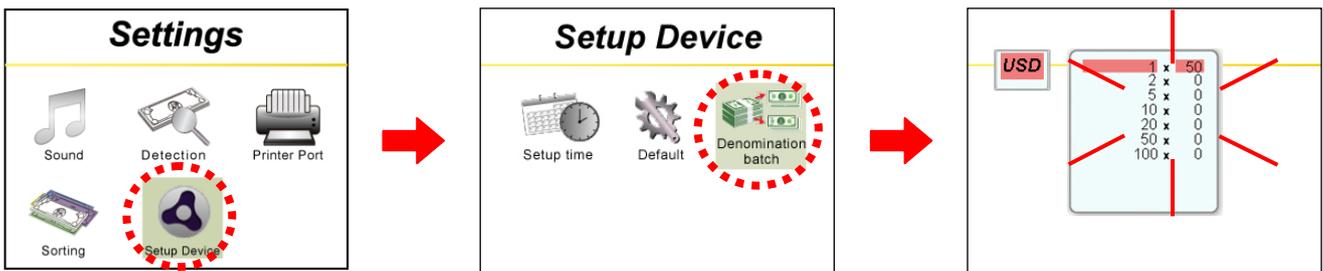
● **Denomination Batch Setting [DB]:**

Each Denomination associated Batch function [DB] is available with ‘SINGLE’, and ‘FACE’ (ALL)’ discriminating modes. Users can activate or deactivate [DB] by pressing [Function] and [BATCH] while in batch mode. This is how [DB] is organized under Batch function in SINGLE and FACE (ALL) modes: By pressing Batch key, batch function changes recursively,

Batch (qty) ON → Denomination Batch [DB] → All Batch Off (----)

Each denomination banknote [DB] batch setting can be set in [Function] Menu. User can set a batch number for each of the denomination banknote and save them into memory.

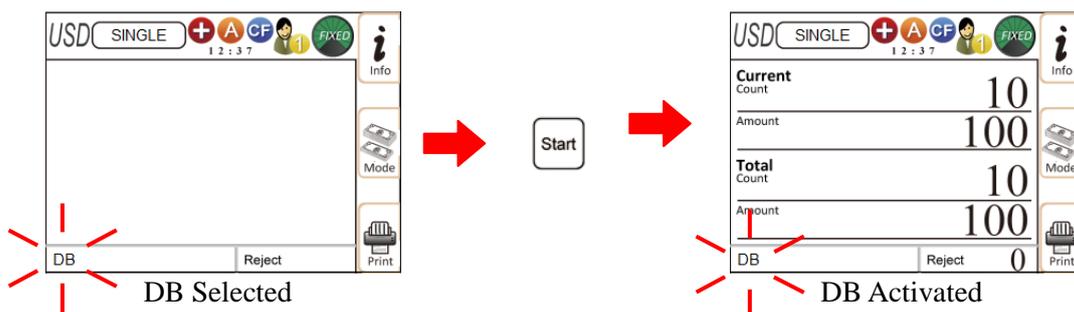
To set denomination batch, press [Function] key followed by [Set] key and then, enter ‘Password’ → select ‘Setup Device’ → enter ‘Denomination Batch’ and then press the [Start] key twice to enter into batch setting mode. Use direction keys [SPEED] and [B] and [Start] key to select the denomination. Once denomination is selected, set batch number by using [0-9] keys and press [Start] key to save the batch number into device memory. The preset batch number should not exceed the stacker maximum pocket capacity of 200pc. See below illustration as an example of [DB] set menu screen:



To activate denomination batch [DB], press and hold [Function] key while pressing [BATCH] key three times or until [DB] is shown on the display screen. Press [Start] to activate the [DB] function. DB must appear on the LCD screen to be activated. When activated, device counts, identifies and batch banknotes by pre-set denomination batch number for each denomination and stop when preset DB batch number is reached. Add more banknotes of that denomination in hopper in case of an incomplete batch or remove all banknotes from stacker and start a new batch count of a new denomination.

**Note that,**

- ⇒ [DB] function will not be activated if denomination batch is not set in the setting menu.
- ⇒ The [DB] function will automatically deactivated in MIX, FACE and ORIENT mode
- ⇒ [DB] must be turned Off if users want to count SINGLE or FACE-ALL mode in regular batching (qty) mode.

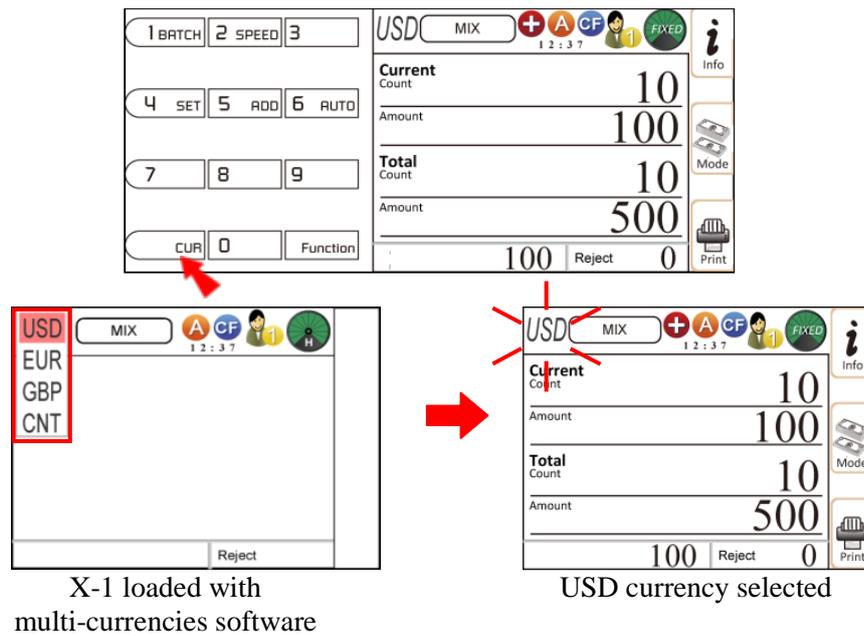


## ○ Selection of Currency

**CUR** key is used to select a particular currency software on the X-1 device (if multiple currencies software were purchased and pre-loaded from factory). If **CUR** key is long pressed, the available currencies and [CNT] will show sequentially on the left top of the LCD display screen.

Press and hold the **CUR** key.

- ➔ A list of all the available currencies that the device is loaded with will display on LCD display screen.
- ➔ Use the direction keys **2 SPEED/8** or the **4 SET/6 AUTO** to highlight your desire currency.
- ➔ Press the **Start** to confirm the selection and return to main screen.



## ○ Discriminating Modes

X-1 Currency Discriminator device is equipped with two main discrimination counting modes: MIX and SINGLE modes. Further, the device provides additional sorting modes to align single or mixture of banknotes with same face or same direction. For details, please refer to the “Face Sorting Mode” and “Orient Sorting Mode” described at P.33 - P.34. The main discriminating modes change in sequence every time the MODE [  ] corresponding key is pressed:



→ MIX → SINGLE → FACE (if activated) → ORIENT (if activated)

### *Definition of different Discriminating Modes:*

MIX

#### Mixed Value Mode

- Counts and identifies mixture denomination of banknotes for individual piece, amount and total valuation. If a banknote fails to identify or determines to be a possible counterfeit / suspect (if CF mode is ON), device then sends the banknote to the reject pocket.

SINGLE

#### Single Value Mode

- Counts banknotes with the denomination of the first detected genuine banknotes as the "Standard" and delivers banknote with different denominations and suspicious banknotes to the reject pocket. Once the hopper is empty and new count starts, the denomination "Standard" will reset to the first identified banknote.

FACE

#### Face Sorting for single or all banknotes

- Counts banknotes with the face of the first detected genuine banknotes as the "Standard", and delivers banknotes with different faces, denominations and suspicious banknotes to the reject pocket.

\*NOTE: Further sorting function for FACE mode is described under Setting Mode. Please refer to P.33.

ORIENT

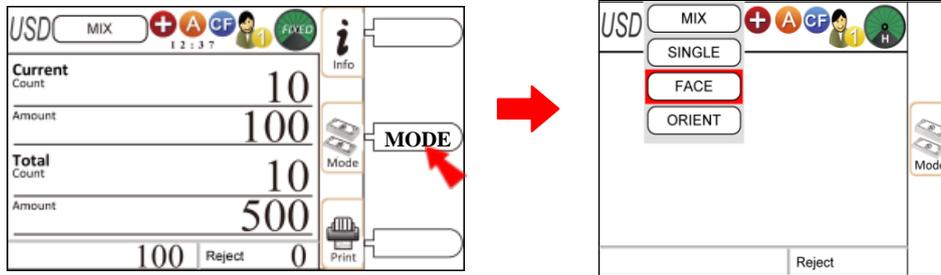
#### Orientation Sorting for single or all banknotes

- Counts banknotes with the face of the first detected genuine banknotes as the "Standard", and delivers banknotes with different orientations, denominations and suspicious banknotes to the reject pocket.

\*NOTE: Further sorting function for ORIENT mode is described under Setting Mode. Please refer to P.34.

**● To process banknotes with different Discriminating functions:**

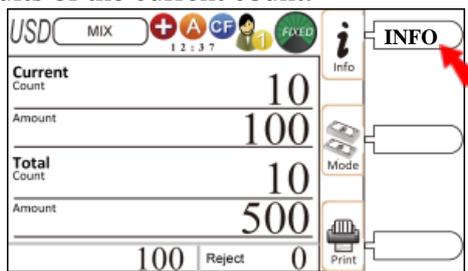
To enter into discriminating modes, press the MODE [  ] corresponding key to scroll through different discriminating modes, or hold the MODE [  ] corresponding key for a second and a list of all discriminating modes will display in sequence on the screen as illustrated below:



- Use the direction keys  or the  to highlight a discriminating function.
- Press  to confirm the selection and return to main menu.

**● Counting Results**

When counting of a stack of banknotes is completed, press INFO [  ] corresponding key to view the detailed counting results of the current count.

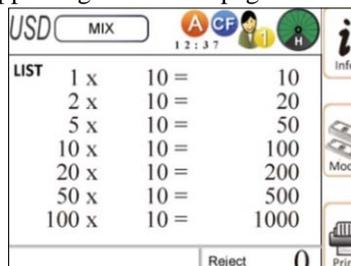


**● Changing Display Contents**

The X-1 Currency Discriminator provides various information regarding counting results. Every time the INFO [  ] corresponding key is pressed, the display screen changes sequentially. There are 4 display screen under [INFO]: Display Result Mode (Detail View), Grand Total mode (Grand Accumulation View), Day Total (Total View by Day), and Reject Reasons (Reasons of Rejects). See below some examples of each Display mode:

**① Display Result Mode**

- The detailed result of current count is shown with the value, quantity and subtotal of accepted banknotes.
- Use direction keys  to scroll down to go to the second page to display any remaining counted denomination not appearing on the first page.



## 2 Grand Total

- Grand Total feature is only available when ADD [ + ] mode is activated.
- In Grand Total mode, all confirmed (saved) transactions are accumulated to Grand Total list.
- Press  to see Grand Total list of different counted currencies (apply to multi-currency model).

Grand Total		
USD		
1 x	20 =	20
2 x	50 =	100
5 x	100 =	500
10 x	100 =	1000
20 x	100 =	2000
50 x	100 =	5000
100 x	100 =	10000
		18620
570 =		

## 3 Day Total

- Day Total feature only available when ADD [ + ] mode is activated.
- In Day Total mode, all confirmed (saved) transactions for the current day is accumulated to Day Total list.
- Press  to see Grand Total list of different counted currencies (for multi-currency model).
- Further, all counted results within the last 30 days are saved into X-1 memory. Use direction keys   to change the counting results for a different date of your need.

Day Total		
USD-MM-DD-YYYY		
1 x	55 =	55
2 x	100 =	200
5 x	500 =	2500
10 x	500 =	5000
20 x	500 =	10000
50 x	500 =	25000
100 x	500 =	50000
		92755
2655 =		

## 4 Reject Reasons

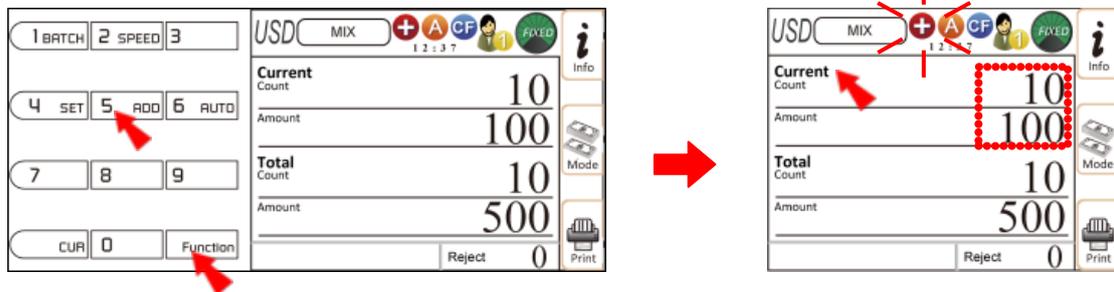
- Device will display numbers of all rejected banknotes and the reasons of rejections under this display function.
- *Definition of reject reasons:*
  - **Double:** Double note.
  - **Skew:** A note skewed during the count.
  - **Unknown Doc.:** An unknown image.
  - **Chain:** Chain banknotes in the bill path.
  - **Note Gate:** A gap between two banknotes is too close.
  - **IR Error:** Infrared error.
  - **UV Error:** Ultraviolet error
  - **MG Error:** Magnetic error
  - **IMG Error:** Image error
  - **Other Error**

Reject Reasons			
Double	<input type="text" value="1"/>	IR Error	<input type="text" value="0"/>
Skew	<input type="text" value="0"/>	UV Error	<input type="text" value="0"/>
Unknown Doc.	<input type="text" value="0"/>	MG Error	<input type="text" value="0"/>
Chain	<input type="text" value="0"/>	IMG Error	<input type="text" value="1"/>
Note Gate	<input type="text" value="0"/>	Other Error	<input type="text" value="0"/>
Total <input type="text" value="2"/>			

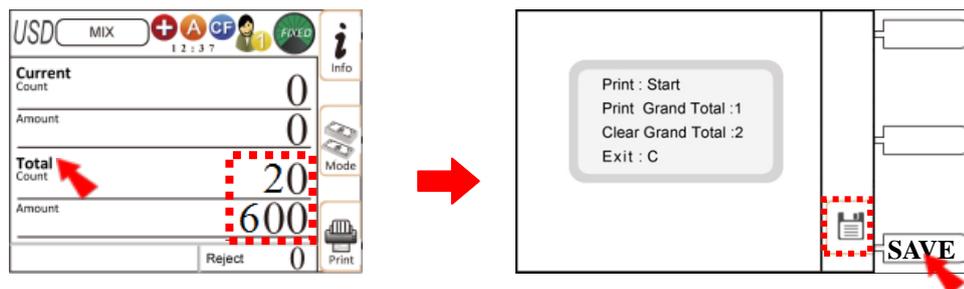
## ○ ADD mode

ADD function provides a cumulative piece count in Count [CNT] mode. As to all discriminating counting modes, the ADD function accumulates quantity and amount of each running total to Grand total and Day total, thus save the results into device memory.

How to activate [ADD] function:



- ❶ Press the **Function** key followed by **5 ADD** key to activate or deactivate ADD function.
  - ➡ When Add mode is turned on, an icon **+** is shown at the center top of the display screen.
- ❷ After a count is completed, the current counted quantity is shown under [Count] and amount of counted banknotes is shown under Current [Amount] column as shown above.



- ❸ Press **PRINT** [  ] corresponding key for confirming the count result and to enter into Print menu. Once entered, user has option to print the current result by pressing **Start** or simply save the results to Grand Total.
- ❹ Press **SAVE** [  ] corresponding key to add the counting result to Grand Total showing under Total [Count] and Total [Amount] as above. By doing so, the current transaction is accumulated to Total Amount and Count as shown above.

The saved transaction is accumulated to Grand Total<sup>1</sup> and Day Total<sup>2</sup>.

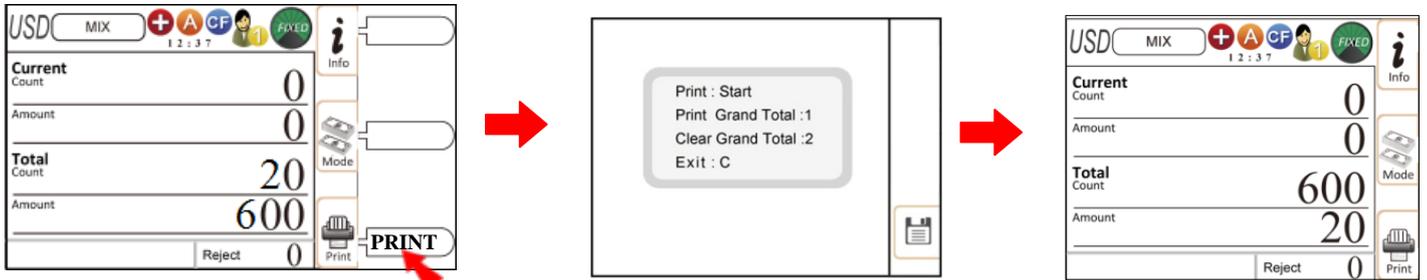
- ➡ Press **Function** and **5 ADD** simultaneously to deactivate the ADD function.
- ➡ When ADD mode is turned off, the icon **+** disappears from the display.

<sup>1</sup> Grand Total: Please refer to P.21 for further information.

<sup>2</sup> Day Total: Please refer to P.22 for further information.

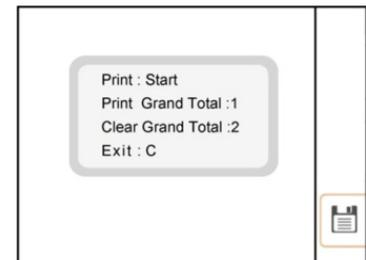
## ○ Grand Total

Grand Total feature is utilized for accumulating different counting results to the memory. To save a transaction to Grand Total,



- ❶ After counting is completed, press PRINT [  ] corresponding key to enter the Print menu.
- ❷ Press SAVE [  ] corresponding key for confirming the transaction or Print receipt by pressing one of the menu options keys.
- ❸ Press **2 SPEED** to clear the Grand total.
- ❹ If counting result is saved, the current transaction then accumulates to the Grand Total.
- ❺ In the Print menu, the user is given the following printing options:

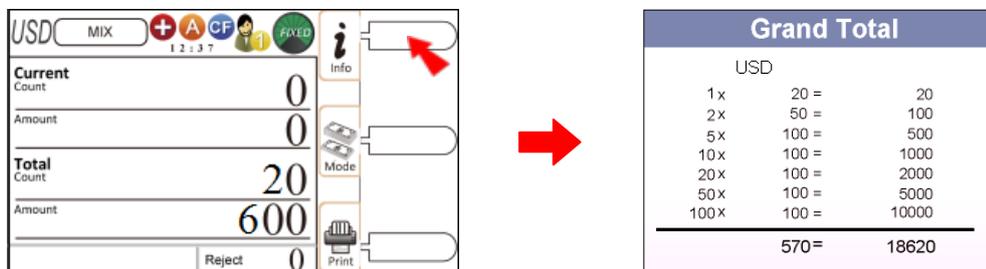
- Start** : Print current transaction.
- 1 BATCH** : Print Grand Total
- 2 SPEED** : Clear Grand Total
- C** : Exit the print mode.



## ● How to view Grand Total List:

To view Grand Total list,

- ❶ Press INFO [  ] corresponding key twice.

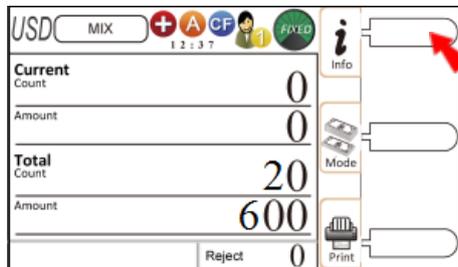


- ❷ All confirmed transactions are accumulated in the Grand Total List as shown above.
  - ➔ Press the **CUR** to check Grand Total List of other currencies (if loaded with the device).
- ❸ To print out a receipt,
  - ➔ Press PRINT [  ] corresponding key and a receipt will print out if a printer is connected to X-1.

## ○ Day Total

Day Total feature is to view and print out all confirmed counting results for current day or a particular day up to the past 30 days. To accumulate a total count for a given day,

- 1 Press INFO [] corresponding key three times.



- 2 All the confirmed transactions of a single day is listed and shown on the display screen.
  - ➔ Use the direction keys   to change to different dates.

Day Total		
USD-MM-DD-YYYY		
1 x	55 =	55
2 x	100 =	200
5 x	500 =	2500
10 x	500 =	5000
20 x	500 =	10000
50 x	500 =	25000
100 x	500 =	50000
<hr/>		
	2655 =	92755

- 3 Press   key to print out one day / all the days or Clear one day / all the days count by pressing  /  as illustrated below:

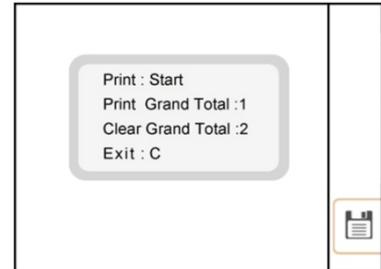
- ➔  : Print all the days.
- ➔  : Print one day.
- ➔  : Clear one day
- ➔  : Clear all the days
- ➔  : Exit.

Day Total		
USD-12-27-2012		
1	122 =	122
		0
<b>Print All The Days : 1</b>		
		10
<b>Print One Day : 2</b>		
		0
<b>Clear One Day : 3</b>		
		0
<b>Clear All The Days : 4</b>		
		0
<b>Exit : C</b>		
<hr/>		
	124 =	132

## ○ Printing the Summary

X-1 device can be connected to a Thermal or Dot-Matrix printer using RS232 serial port and to print current counting result or grand total and day total that are saved in the memory.

- ❶ Connect a Dot-Matrix printer with the device.
  - ➔ The upper RS232 serial port is reserved for User 2.
  - ➔ The lower RS232 serial port is reserved for User 1.
  - ➔ Port settings can be changed in the Maintenance Mode.
- ❷ Once printer is connected and counting is completed, press PRINT [  ] corresponding key.



- ❸ Follow the display message to proceed.

- ➔ : Print Current Total.
- ➔ : Print Grand Total.
- ➔ : Clear Grand Total.
- ➔ : Confirm and save the transaction into grand total and day total
- ➔ Press the  to cancel the operation.

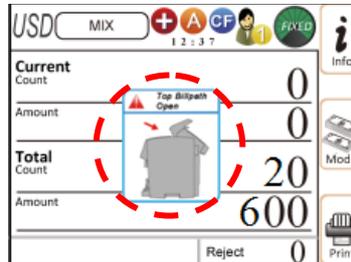
- ❹ Receipt.

- ➔ The printer receipt lists the "currency name", date and time, User ID, "Pcs" and amount by each denominations and total quantity and amount of counted banknotes. Print receipt also list the number of banknotes to the reject stacker during a counting process.

X- Series Currency Discriminator			
			NO: 0006
12-20-2012	14:39:32		
Machine ID : X0001A - B01NX			
User ID : User 1			
-----			
Currency:	USA		
-----			
Denom	Pcs	Amount	
\$ 1	3	\$ 3	
\$ 2	0	\$ 0	
\$ 5	3	\$ 15	
\$ 10	0	\$ 0	
\$ 20	3	\$ 60	
\$ 50	1	\$ 50	
\$ 100	1	\$ 100	
-----			
TOTAL	11	\$ 228	
-----			
Reject Qty	1		
-----			

## ○ Clear error messages

If bill path of the device is opened intentionally by user during a counting process, an error message will appear on the display screen as below and device will stop counting. User then must close the bill path securely and follow the steps below to clear error message and resume counting:



- ❶ First, close the bill path securely.
- ❷ Press the  key to clear error message.
- ❸ When  key is pressed, the motor will start running and remove all foreign matters in the bill path to the reject pocket.
- ❹ Once error message is cleared and foreign matters are removed from bill path to reject pocket, the device then resumes operation in correct manner. Note that, user must remove all banknotes or foreign matters from reject pocket to resume normal operation.

### **WARNING**



Please Do Not open the Top bill path or back door while machine is running. Your hand or clothing may get caught and cause serious injury.

#### **In case of Jammed Banknotes:**

Ensure that machine is fully stopped before opening door to remove banknotes.

Once banknotes are removed push door close until it clicks.

Press [C] to clear and [Start] to resume operation.

## ○ Message Code

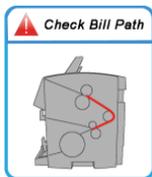
During counting operation, various error messages may pop up on the LCD screen. Below are the list of all pop-up error messages and possible cure:

WARNING

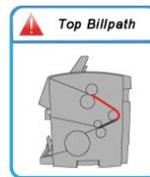


*[Please make sure that device is completely stopped before performing any of the below]*

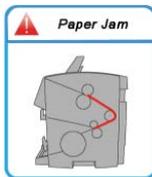
### ○ Check Bill Path



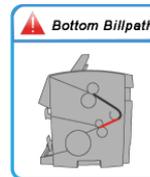
- ◆ Please open the bill path and check to make sure no foreign matter inside.



- ◆ Error with Top Bill path: Please open the bill path and check to make sure no foreign matter inside.



- ◆ Please open the bill path and remove the jammed banknote(s)

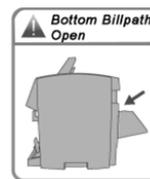


- ◆ Error with Bottom Bill path: Please open the bottom cover and check to make sure no foreign matter inside.

### ○ Open Bill Path



- ◆ Top cover of the Bill path is open. Please close it securely before operating.

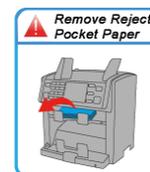


- ◆ Bottom Bill path is opened. Please close it securely before operating.

### ○ Remove Banknotes



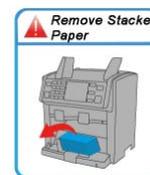
- ◆ Please remove all banknotes from the Note hopper and place them again to resume counting.



- ◆ Please remove all banknotes from reject pocket. Once they are removed, the operation resumes.



- ◆ The Reject pocket is full. Please remove all banknotes from Reject pocket.



- ◆ Please remove all banknotes from the Stacker. Once removed, the operation continues.



- ◆ The Stacker is full. Please remove all banknotes from the Stacker.

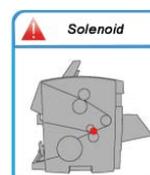


- ◆ The counted quantity doesn't reach preset number. Place more banknotes in the note hopper to resume counting or redo from start.

### ○ Error (contact your service provider)



- ◆ Please check if the motor error occurs when power is on. If the error still occurs, please contact your service provider.



- ◆ Please check if any note jammed in the bottom bill path.
- ◆ Please Remove jammed note and test again.



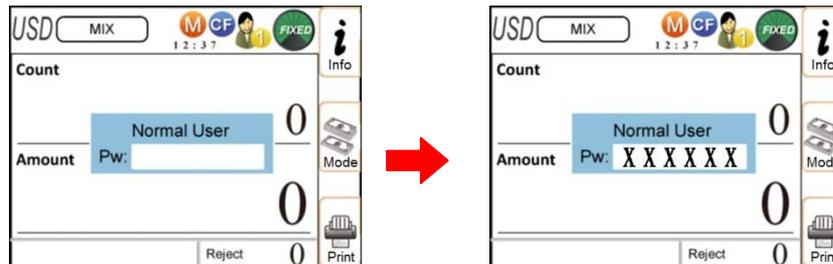
## Chapter 4. Setting Up X-1

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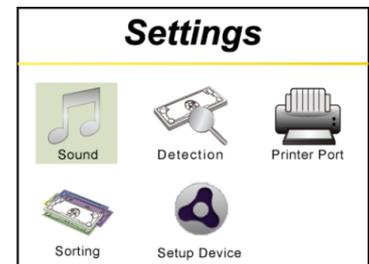
## ○ Set Function and its Parameter Settings

This chapter is reserved for trained operator or service professional. To set a function and its parameters, enter into Setting mode by pressing **[Function]** key followed by **[4 SET]** key. After pressing these two keys, a password requirement will prompt on the screen. Using (0-9) keys on the control panel, enter 6 digits password provided to you by your sales representative and press **[Start]** key to confirm and continue.

[ **[Function]** and **[4 SET]** → Password (XXXXXX) → **[Start]** → enter into Setting Mode ]



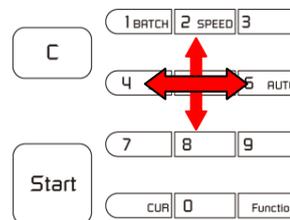
While in Setting mode, the Settings screen will appear for user to select the desire function and settings. Follow the below steps to scroll through the Settings menu:



### ❶ Highlighting menu with direction keys.

➔ Under the Setting Mode, the below number keys represent as the direction keys:

**[2 SPEED]**: (Up) ⬆  
**[8]**: (Down) ⬇  
**[4 SET]**: (Left) ⬅  
**[6 AUTO]**: (Right) ➡



### ❷ Confirming the selection.

➔ After highlighting a desire icon, press the **[Start]** key to confirm the selection.

### ❸ Return to main screen.

➔ Press the **[C]** key to return to main or previous screen.

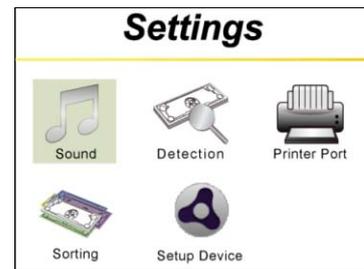
This chapter will describe each of the below function settings and its parameters in great details

-  Sound Setting
-  Detection On/Off
-  Printer Options
-  Sorting Mode Setting
-  Setup Device Mode

## ○ Sound Settings

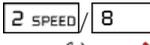
To set different parameters of Sound Setting, first,

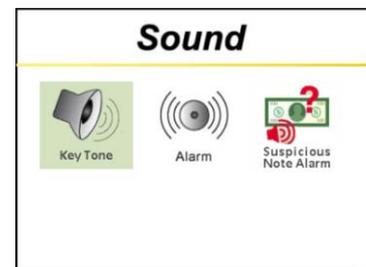
- Highlight the icon  under Setting menu.
- Confirm selection with the  key.
- The Sound Setting menu will enter into a sub-menu.



### ● Setting Key Tone

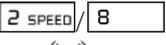
Under this [Sound] menu, operator has the option to turn On / Off the Key Tone that sound while pressing keys (Default: ON). See below steps describing how to activate or deactivate key tone :

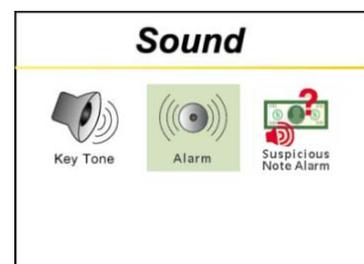
- ➊ Highlight the icon .
- ➋ Confirm selection with the  key.
- ➌ To turn Key Tone On or Off.
  - Use the direction keys   or the   to highlight your selection  or .
- ➍ Confirm setting.
  - Press the  to confirm setting and return to [Sound] menu.



### ● Setting Alarm

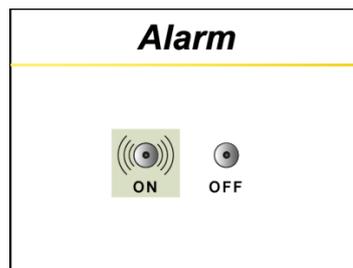
Under [Alarm], operator has the option to turn On / Off warning alarm that sound in the event of error messages (Default setting: ON). In order to turn On / Off Alarm,

- ➊ Highlight the icon .
- ➋ Confirm selection with the  key.
- ➌ Use the direction keys   or the   to highlight your selection  or .
- ➍ When Alarm is turned ON, the device sounds with a message code shown on the LCD display.



**4** Confirm setting.

- ➔ Press the  to confirm setting and return to previous screen.



**● Suspicious Note Alarm**

Under [Suspicious Note Alarm], user has the option to turn On / Off Warning Alarm (beep sound) that sound in the event of suspect or counterfeit banknotes. (Default setting: ON). In order to turn On / Off Suspicious Alarm sound,

**1** Highlight the icon [Suspicious Note Alarm]

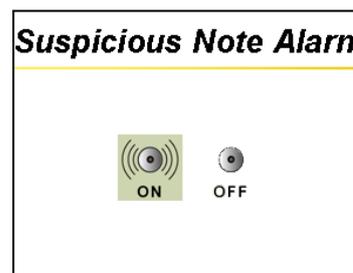
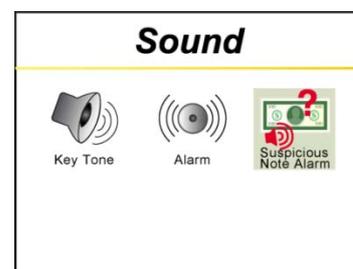
**2** Confirm selection with the  key.

**3** Use the direction keys  or the  to highlight your selection  or .

- ➔ When Alarm is turned on, the device sounds with a message code shown on the LCD display when there is a suspect or counterfeit banknote is detected.

**4** Confirm setting.

- ➔ Press the  key to confirm setting and return to previous screen.



**○ Detection On / Off**

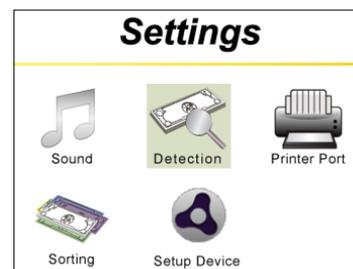
User can turn On or Off counterfeit detection function while in Discriminating Modes (Default: ON). In order to enter into the Detection setting menu,

**1** Highlight the icon .

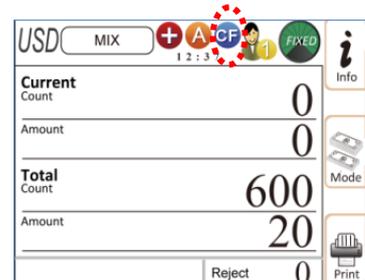
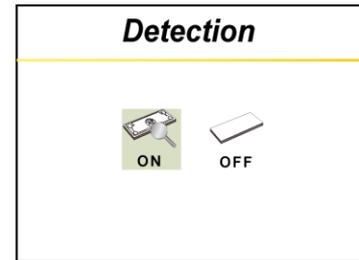
**2** Confirm selection with the  key.

**3** Setting detection

-  : The device counts with counterfeit detection ON and delivers suspicious banknotes to the reject pocket.



- **OFF** : The device discriminates banknotes without further checking counterfeit security features.
- 4 Selecting a mode.
    - ➔ Use the direction keys **2 SPEED/8** or the **4 SET/6 AUTO** for highlighting your selection.
  - 5 Confirm setting.
    - ➔ Press the **Start** to confirm setting and return to previous screen.
- When the Counterfeit Dection is turned ON, an icon  is shown on the main display.

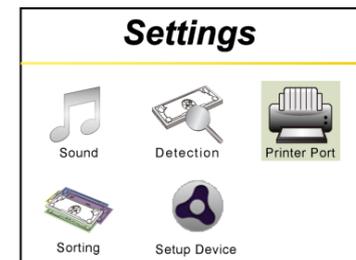


## ○ Printer Options

Under [Printer Options], user has the option to select Printer Paper size and Baud Rate.

To enter into Printer Port Settings menu,

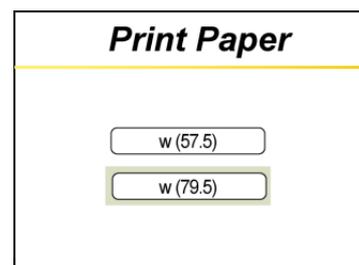
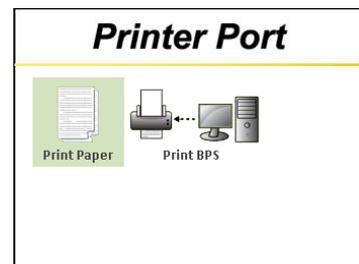
- 1 Highlight the icon  using the direction keys **2 SPEED/8** or the **4 SET/6 AUTO**
- 2 Confirm selection with the **Start** key.



## ● Print Paper

To setup a paper size of the connected thermal / Dot Matrix printer (Default: W(79.5))

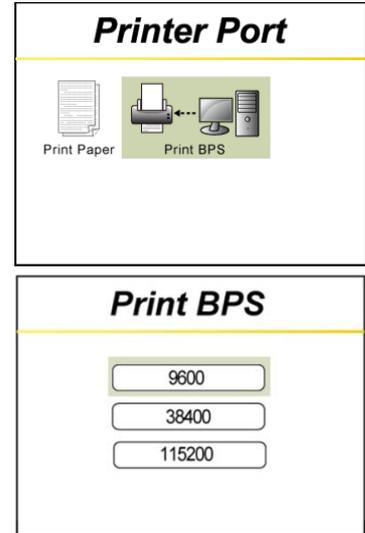
- 1 Highlight the icon .
- 2 Confirm selection with the **Start** key.
- 3 Check the paper size of the connected printer.
  - **W(57.5)**: 2 inches paper.
  - **W(79.5)**: 3 inches paper.
- 4 Select the paper size of the connected printer.
  - ➔ Use the direction keys **2 SPEED/8** or the **4 SET/6 AUTO** for highlighting.
- 5 Confirm setting.
  - ➔ Press the **Start** key to confirm setting and return to previous screen.



## ● Printer Baud Rate (BPS)

To setup baud rate for printer (Default: 9600bps for Dot Matrix)

- ❶ Highlight the icon 
- ❷ Confirm selection with the  key.
- ❸ Locate the proper baud rate.
  - : 9600bps (Default for Dot Matrix)
  - : 38400bps
  - : 115200bps (for Thermal printer)
- ❹ Select the baud rate of the connected printer.
  - ➔ Use the direction keys /  or the /  for highlighting.
- ❺ Confirm setting.
  - ➔ Press the  to confirm setting and return to previous screen.



## ● Printer Type:

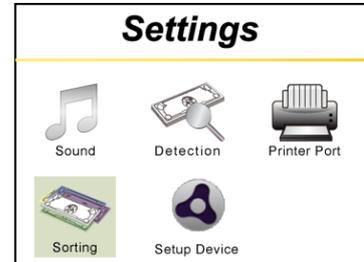
Dot Matrix Printer is set as default on X-1 device. In order to change Dot Matrix printer to Thermal printer and vice-versa, service professional must enter into Maintenance Mode (password protected) to make the change. Contact AMROTEC for password to enter into Maintenance Mode.

## ○ Sorting Mode Setting

X-1 device is equipped with two main Sorting Modes for currency sorting. These sorting modes are: FACE Sorting and ORIENT Sorting which are then divided into two sub-sorting features as describes below:

To enter into Sorting Mode Settings menu

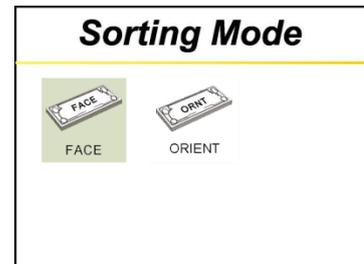
- ① Highlight the icon  using the direction keys  or the  or the   key.
- ② Confirm selection with the  key.



### ● FACE Sorting Mode

By entering this menu, user can select mode for Face sorting. To activate FACE sorting, please follow the steps below:

- ① Highlight the icon .
- ② Confirm selection with the  key.
- ③ Locate your desired function for face sorting.



: *Face sorting by face & denominations.*

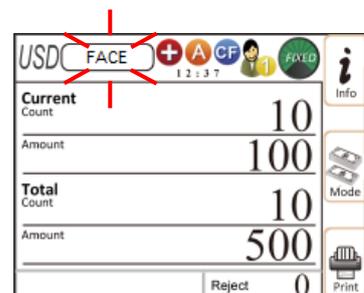
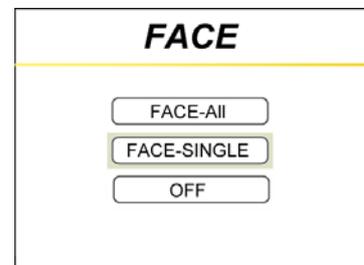
- When selecting on this mode, on the sorting function it's shown as .
- In this mode, X-1 device allows you to sort mixed banknotes by face. The device reads the first note to find out the face information despite of denomination.

: *Face sorting by face and single denomination.*

- When selecting on this mode, on the sorting function it's shown as .
- In this mode, X-1 device allows you to sort mixed banknotes by face and a certain denomination. The device reads the first note to find out the face and denomination information.

: *Face sorting function is turned off.*

- In this mode, X-1 device turns off face sorting function and the option does not appear on the list of sorting mode.
- ④ Select the desire function.
  - Use the direction keys   or the   for highlighting.
- ⑤ Confirm setting.
  - Press the  to confirm setting and return to previous screen.



## ● ORIENT Sorting Mode (ORIENTATION)

By entering this menu, user can select mode for ORIENT sorting. To activate ORIENT sorting, please follow the steps below:

- ❶ Highlight the icon  using the direction keys **2 SPEED/8** or the **4 SET/6 AUTO** key.
- ❷ Confirm Selection with the **Start** key.
- ❸ Locate your desire function for face sorting.

**ORIENT-All**: *Orient sorting by face, direction and mixture of denominations.*

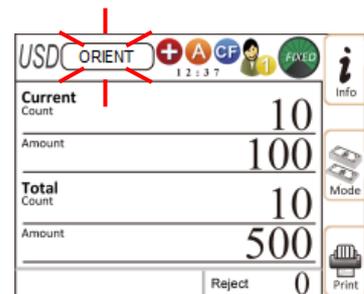
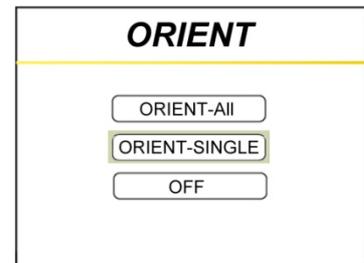
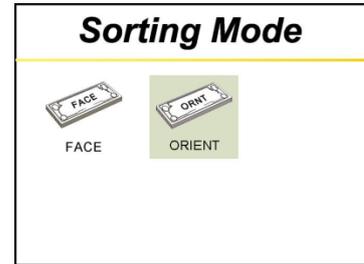
- When selecting on this mode, on the sorting function it's shown as **ORIENT-All**.
- In this mode, X-1 allows you to sort mixture of banknotes by certain orientation. The device reads the first note to find out the face and direction information despite of denomination.

**ORIENT-SINGLE**: *Orient sorting by face, direction and single denomination.*

- When selecting on this mode, on the sorting function it's shown as **ORIENT**.
- In this mode, X-1 arranges banknotes by direction, face and denomination. The device reads the first note and find out information regarding direction, face and denomination.

**OFF**: *Orient sorting function is turned off.*

- In this mode, X-1 device turns off face sorting function and the option does not appear on the list of sorting mode.
- ❹ Select your desire function.
    - Use the direction keys **2 SPEED/8** or the **4 SET/6 AUTO** for highlighting.
  - ❺ Confirm setting.
    - Press the **Start** to confirm setting and return to previous screen.

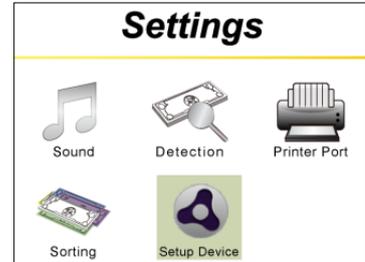


## ○ Setup Device

Under [Setup Device], users have option to set up date and time, set factory default setting and denomination batch [DB] setting. For denomination batch [DB] setting, please refer to P. 15.

To enter into [Setup Device],

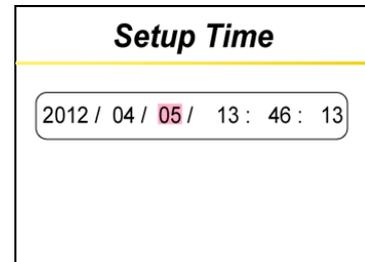
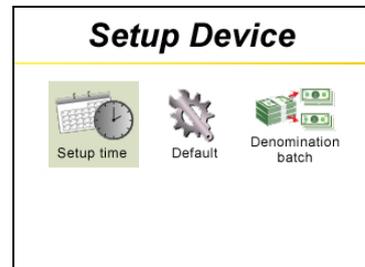
- 1 Highlight the icon .
- 2 Confirm selection with the  key.



## ● Setup Time

To setup date and time,

- 1 Highlight the icon .
- 2 Confirm selection with the  key.
- 3 Change date and time setting.
  - ➔ Use the direction keys /  or the /  to highlight a desired zone to modify.
- 4 Press  to select the modified zone.
  - ➔ The color of the selected zone will change from pink to red.
- 5 Use number keys to change settings.
- 6 Press  to confirm changes.
- 7 Press  to return to previous menu.



## ● Default Setting (Factory)

**Factory Default Setting is utilized to** turn on the device with factory default setting everytime machine is powered off and on.

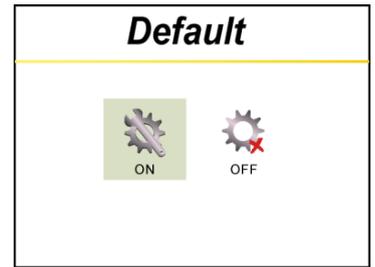


### CAUTIONS!

If factory default setting is selected to (ON), please note that users will lose all of their pre-set settings that they may have entered since the device was first operated. So, prior switch to Factory Default Setting, please consult with your sales representative or our authorized service professional.

The below describes the steps to set Factory Default setting to ON:

- ❶ Highlight the icon .
- ❷ Confirm your selection with the  key.
- ❸ Default setting On or Off.
  -  : The device always turns on with factory's default setting.
  -  : The device always turns on without factory's default setting. (Factory's standard setting)
- ❹ Activation or deactivation
  - Use the direction keys / or the / for highlighting.
- ❺ Confirm setting.
  - Press the  to confirm setting (ON / OFF) and Return to previous menu.



**Chapter 5. Maintaining X-1**

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Cleaning X-1 .....39

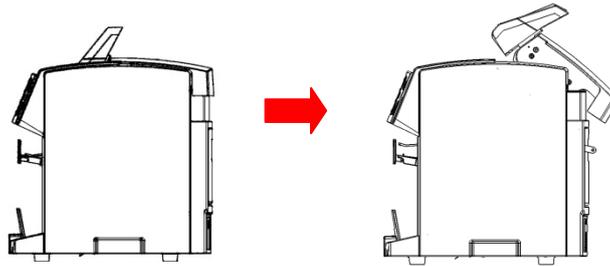
## ○ Opening Bill Path

### ● Opening Top Bill path

***Cautions! Do not attempt to open the top bill path while device is still in operation***

- Open the Top bill path only when banknotes are jammed in this area as prompted by the error message displayed on the LCD screen during a counting operation and only when device is halted.
- Open the Top bill path during cleaning and maintaining of the X-1 device while power is Off.

***Make sure to close the Top Bill path securely after jammed banknotes are removed or after cleaning and maintaining task is completed.***

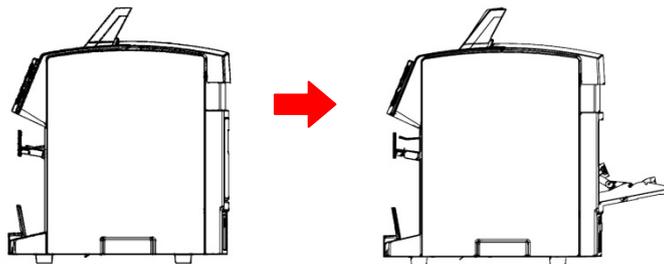


### ● Open bottom bill path

***Cautions! Do not attempt to open the bottom bill path while device is still in operation***

- Open the bottom bill path only when banknotes are jammed in this area as prompted by the error message displayed on the LCD screen during a counting operation and only when device is halted.
- Open the bottom bill path during cleaning and maintaining of the X-1 device while power is off.

***Make sure to close the Bottom Bill path securely after jammed banknotes are removed or after cleaning and maintaining task is completed.***



## ○ Cleaning X-1

The below describes how to clean the exterior cover (surface) of X-1 device.

Periodically clean the exterior of X-1 surface as follows:

- ❶ Prepare a mixture of a gentle kitchen-use detergent (one that does not contain abrasive powder or strong chemicals such as acid or alkaline). Mix with 5 cup water with 1 cup detergent.
- ❷ Soak the sponge with the mixture of diluted detergent for couple of minutes.
- ❸ Squeeze excess liquid out from the sponge.
- ❹ Wipe the cover with the sponge in a circular motion and make sure not to let any excess liquid drips into the interior of the device.
- ❺ Wipe the exterior surface of the device to remove the detergent.
- ❻ Rinse the sponge with clean running water.
- ❼ Wipe the cover with the clean sponge.
- ❽ Wipe the surface again with a dry, soft lint-free cloth.
- ❾ Wait for the surface to dry completely and remove any fibers.

Cleaning the bill path of X-1 device

- ❶ Open the upper bill path.
- ❷ Gently wipe it or dust the bill path with a brush or a dry, soft lint-free cloth.
- ❸ If stain or debris remains, moisten a soft lint-free cloth with water or a 50-50 mixture of isopropyl alcohol and water that does not contain impurities.
- ❹ Squeeze out as much of the liquid as you can.
- ❺ Wipe the bill path and the sensor surface again; do not let any liquid drip into the device.
- ❻ Repeat 1-5 to clean the lower bill path.

**\*NOTE: Avoid spraying cleaner directly on the device, and be sure to dry the bill path before closing it.**



## Appendix. Specification

<b>Feed System</b>	Roller friction system	
<b>Counterfeit Detection</b>	UV, IR, MG	
<b>Counting Speed</b>	<b>Piece count</b>	700, 850, 1000 banknotes / minute
<b>Discriminating / Denominating</b>		< 750 banknotes / minute
<b>Available Currencies</b>	USD Standard. EUR and LOCAL (OPTION)	
<b>Denomination Detection</b>	IR Image sensor	
<b>Hopper Capacity</b>	Maximum 500 banknotes (circulated banknotes)	
<b>Pocket Capacity</b>	Main Pocket Capacity	Max. 200 banknotes (circulated banknotes)
	Reject Pocket Capacity	Max. 15 banknotes (circulated banknotes)
<b>Countable Note Size</b>	60 X 85 X 0.08mm ~ 100 X 190 X 0.12mm	
<b>Display</b>	3.5 Inch color TFT LCD	
<b>Power supply</b>	100 ~ 240V AC, 60Hz	
<b>Power consumption</b>	Max. 50W	
<b>Dimensions(mm/ Inch)</b>	282(W) X 272 (D) X 272 (H)	
	11.2" (W) X 10.8" (D) X 10.8" (H)	
<b>Weight</b>	Approx. 18 lbs / 8.2Kg	
<b>Interface</b>	RS-232 x 2	
	USB x 1	
<b>Accessories (optional)</b>	External Customer Remote Display Thermal Printer, Dot Matrix printer	

## **Limited Warranty, Disclaimer, Service:**

### **Limited Warranty:**

Congratulations on your purchase of our X-1 Series Currency Discriminator Counter. The manufacturer warrants this equipment for a period of 90 (Ninety) days after the date of purchase against defects due to faulty workmanship or materials. This warranty does not cover normal wear of parts or damages resulting from any of the following: negligent use or misuse of the product, use on improper voltage or current, use contrary to operating instructions or disassembly, repair or alteration by any person other than an authorized and trained AMROTEC® technician or Service Provider.

Parts repair or replacement under this warranty is only provided upon presentation of reasonable evidence that the date of the claim is within the warranty period and warranty guideline has been satisfied. To obtain warranty support, repair, servicing, you may contact sales representative of your X-1 Currency Discriminator Counter.

### **Disclaimer:**

Warranty remedies limited to only parts repair or replacement of this equipment. Manufacturer, distributor, dealer or sales representatives of X-1 Series Currency Discriminator Counter shall not be liable for any incidental or consequential damages for breach of any express or limited warranty on this equipment or any part thereof. Except to the extent prohibited by applicable law, manufacturer, distributor, dealers, and sales representatives of X-1 series Counter Discriminator Counter disclaims any implied warranty or merchantability or fitness for a particular purpose of this equipment or any part thereof. This warranty gives you specific legal rights, and you may also have other rights which vary from state or state of United States of America. This warranty is valid only in the United States Of America.

### **Service:**

To obtain out of warranty repair or service on your X-1 Currency Discriminator Counter, contact your sales representative or your Service Provider you have signed maintenance contract with.

It is recommended that all equipment returned for service and repair must be returned to your Service Provider in the original packaging.

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**REMARK:**

**REMARK:**

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