# Currency Counter

Operation Manual

Contents

General Information

Before you operate the machine, please read this manual carefully. Do not operate the machine until you understand the contents of this document.

Should you have any doubts, please contact your local distributor, or sales agent, for further advice.

Machine Overview

1. Feed Gap Adjustment Knob
2. Left Cover
3. Friction Roller
4. Feed Roller
5. Drum Roller
6. Stacker Vanes
7. Stacker Sensor
8. Carrying Handle
9. Right Cover
10. Note Guide Plate
11. Control Panel
12. Stacker Cover
13. Stacker
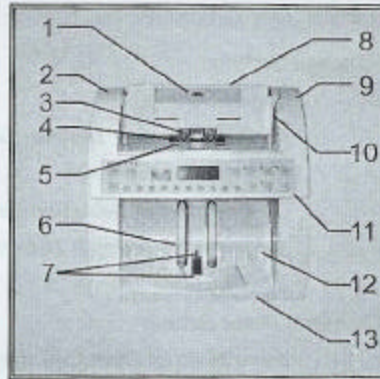
14. Power Switch
15. Power Socket (With Fuse)
16. Remote Count Display
    (RCD) Socket (option)
17. RS232 Socket (option)

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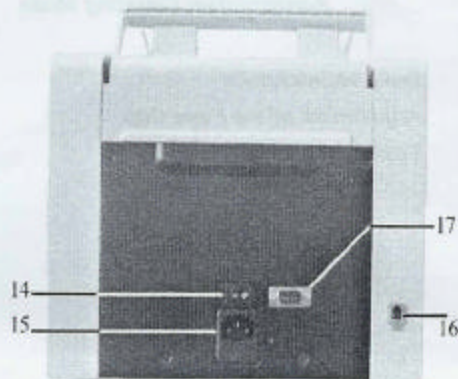
Technical Specifications

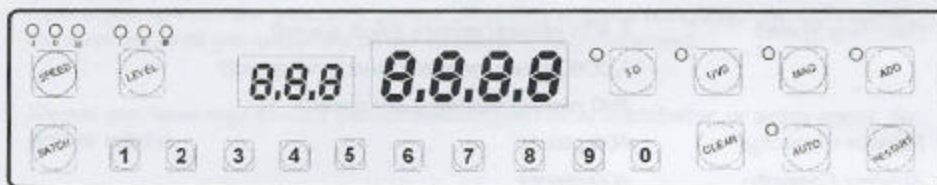|	
Counting Speed	1,500 pieces/minute (High speed)
	1,000 pieces/minute (Standard speed)
	700 pieces/minute (Low speed)
Hopper Capacity	400 pieces
Stacker Capacity	200 pieces
Countable Note	
Thickness	0.05 -- 0.2 mm
Size	120 x 50mm -- 175 x 90 mm
Counting Display	4 Digits
Batch Display	3 Digits
Counting Modes	Continuous Counting Mode
	Batch Counting Mode
	Accumulation Counting Mode
	Automatic, or Manual Start Mode
Detection Modes	Double Detection Mode
	Size Detection Mode
	Both size (3D) Detection (option)
	UV Counterfeit Detection (option)
	MG Counterfeit Detection (option)
	Dual Magnetic Detection (option)
Power Consumption	50 Watts (Operating)
Power Requirements	110/220 Volts AC @ 50/60 Hz
Dimensions	280 x 225 x 250mm
Ambient Temperature	0 -- 40 Degrees Centigrade
Relative Humidity	30 -- 75%
Weight	7 Kg

Key Functions

SPEED	--- Press this key for selecting the counting speed.
LEVEL	--- Press this key for selecting the double detection density level.
BATCH	--- Press this key for selecting the default batch counting number or Continuous Counting Mode.
NUMERIC KEY	--- Press the ten numeric key for inputting the batch counting number and selecting the sensitivity of the 3D detection.
3D	--- Press this key for setting the 3D function.
UVD	--- Press this key for selecting the Ultraviolet Detection function on or off & selecting the detection level.
MAG	--- Press this key for selecting the Magnetic Detection function on or off & selecting the detection level.
ADD	--- Press this key for selecting the Accumulation Mode on or off. When in the Accumulation Counting Mode, the LED indicator of the Accumulation Mode will be on.
CLEAR	--- Press this key to clear the error code when an error occurs. Press it again to clear the counting number. Clear the batch number by press it for three times.
AUTO	--- Press this key for selecting the AutoStart Mode on or off. When in the AutoStart Mode, the LED indicator of the AutoStart Mode will be on.
RESET	--- Press this key to clear the error code and continue counting when an error occurs.

Operating Procedures

Before you turn on the machine, please ensure you remove ALL Notes from the Hopper and Stacker areas.

Turn ON the Power Switch on the rear of the machine. The machine will enter a 'Self-Test' mode. The machine Motor systems will run for approximately 1 second and then, if correct, the Motors will stop and the display will change to show:


When the machine leaves the factory, the Default Functions are set as follows:

AutoStart Mode	ON
UV Counterfeit Detection	U – 3
	(Only for the model with 'UV')
MAGnetic Counterfeit Detection	OFF
	(Only for the model with 'MAG')
Counting Speed	1000 pieces/minute (Standard)
Double Detection Density	Level II
Width Detection	5 mm Accuracy
Length Detection	5 mm Accuracy
	(Only for the model with '3D')
Counting Mode	Continuous Counting
Accumulation Counting	OFF

The machine will auto remember the function setting which is pre-set by previous operator. The machine will default back to these previous settings when you turn the machine on.

If you want to change the default function setting, please see section titled "Function Setting".

After function setting is complete, it is important to adjust the distance between the two Note Guides according to the length of the notes you will count. Place the notes in the Hopper, ensuring that the lower notes within the bundle are inserted firmly into the rear of the feed area. (Please see the following photographs for your guidance):
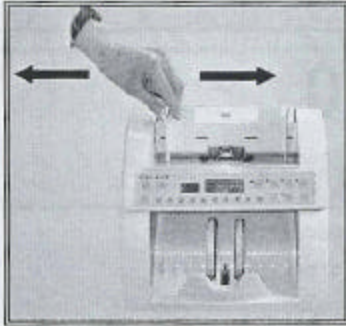
The machine will start counting automatically.

The machine will stop automatically under the following Conditions:

- All the notes in the Hopper have been counted.
- The machine count has achieved the pre-set batch quantity.
- When an error occurs - An Error Code message will be shown on the display. Please refer to the Troubleshooting 'Error Message' table at the end of this Operation Guide.

In AutoStart mode, when the contents of the Stack are removed, providing notes are still available in the Hopper, the machine will start counting automatically again.

In Manual Start mode, when the contents of Stacker are removed, providing notes are still available in the Hopper, the machine will not start operating until you press the RESET key.

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Function Setting

Speed Setting

Press the **SPEED** key to select the speed. When you select a certain speed, the corresponding Led Indicator will be on. The **I** indicator indicates that current speed setting is Low speed (700 pieces/min). The **II** indicator indicates that current speed setting is Standard speed (1000 pieces/min). The **III** indicator indicates that current speed setting is High speed (1500 pieces/min).

Double Detection Density Level Setting

Press the **LEVEL** key to select the double detection density level. When you select a certain level, the corresponding Led Indicator will be on. The **I** indicator indicates that current density level is I (Lowest density level). The **II** indicator indicates that current density level is II (Standard density level). The **III** indicator indicates that current density level is III (Highest density level) The machine will default back to Level **II** when you turn on the machine next time.

3D Function Setting

Press the **3D** key to select the 3D detection accuracy.

Press the **3D** key, the four digits counting display will show " L—5 ". Then you can change the Length Detection Accuracy by pressing the numeric keys(3,4,5,6,7,8,9). The display will show " L—0 " by pressing the numeric key " 0 ". These numbers represent the accuracy in mm, i.e., 3 represents 3 mm accuracy. 0 represents the Length Detection disabled.

Press the **3D** key again, the four digits counting display will show "H—5 ". Then you can change the Width Detection Accuracy by pressing the numeric keys(3,5,9). The display will show "h—0 " by pressing the numeric key "0 ". These numbers represent the accuracy in mm, i.e., 3 represents 3 mm accuracy. 0 represents the Width Detection disabled.

After selecting the desired accuracy, press any key to save the setting.

UVD (Ultraviolet Detection) Setting (option)

Press the **UVD** key to select the Ultraviolet Detection Sensitivity.

Press the **UVD** key, the four digits counting display will show " U – 4 ". By continuous press the UVD key, the counting display will change through " U – 5 ", " U –6 "," U—7 ", "U—0 ", "U—1", "U—2" and " U –3 ". The 0 indicates OFF, the 1 indicates a LOWEST detection sensitivity, the 3 indicates a STANDARD detection sensitivity, and the 7 indicates a HIGHEST detection sensitivity.

After selecting the desired sensitivity, press any key to save the setting. The machine will default back to " U – 3 " when you turn on the machine next time.

MAG (Magnetic Counterfeit Detection) Setting (option)

Press the **MAG** key to select the Magnetic Counterfeit Detection Sensitivity.

Press the **MAG** key, the four digits counting display will show " CF – 1 ". By continuous press the MAG key, the counting display will change through "CF –1 ", " CF – 2 " and " CF – 0 ". The 0 indicates OFF, the 1 indicates a LOW detection sensitivity, the 2 indicates a HIGH detection sensitivity.

After selecting the desired sensitivity, press any key to save the setting.

Counting Mode Setting

AUTO/MANUAL START COUNTING MODE

By pressing the **AUTO** *key, you can switch the machine to AUTO/MANUAL START MODE. When the machine is in Auto Start Mode, the Led Indicator of the AUTO key will be on. The machine will default back to Auto Start Mode when you turn on the machine.*

CONTINUOUS COUNTING MODE

When the 3 digits of smaller LED display shows ' - - - ' , the machine is in the Continuous Counting mode. If you place some notes in the Hopper (Providing the machine is in AutoStart Mode, otherwise you must press the **RESET** *key as you are in the Manual Start Mode), the machine will count the notes until the Hopper is either empty, or stops whenever an Error occurs during the process.*

BATCH COUNTING MODE

Press the **BATCH** *key, or any numeric key, to enter into the Batch Counting mode. In the Batch Counting Mode, You can select any default Batch Number by repeatedly pressing the* **BATCH** *key, or input your desired/random number, simply by pressing the numeric keys. By pressing* **CLEAR**, *the displayed batch can be cleared and the machine exit from the Batch Counting Mode back into the Continuous Counting Mode.*

ACCUMULATION COUNTING MODE

By pressing the **ADD** *key, you can select the Accumulation Mode ON, or OFF. When the machine is in the Accumulation Mode, the Led Indicator of the* **ADD** *key will be on and the counting number will be accumulated on the last counted number.*

Daily Maintenance

Please maintain the machine via this simple daily procedure:

1. Turn the Main Power Switch OFF and disconnect the Mains Power Cord from the rear of the machine.

2. Using the brush provided, clean the central Hopper Sensor, the two Stack Sensors, Hopper area and the Stacker area. The photograph below shows the location of these devices:
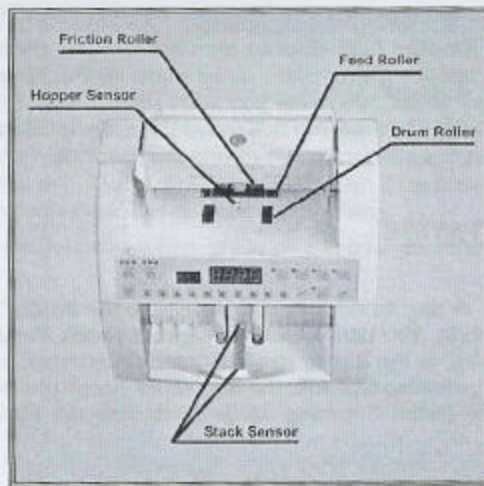
Additionally, please maintain the machine using this relatively simple monthly routine:

1. Turn the Main Power Switch OFF and disconnect the Mains Power Cord from the rear of the machine.

2. Using a piece of clean, lint-free cloth and an approved non-toxic solvent fluid, carefully clean the surfaces of the following parts, which are identified in the above photograph. Do not allow any fluid to come in contact with ANY electrical parts.

   Friction Rollers, Feed Rollers, Drum Rollers, Stacker Sensors, Central Hopper Sensor and the Outer Plastic Covers.
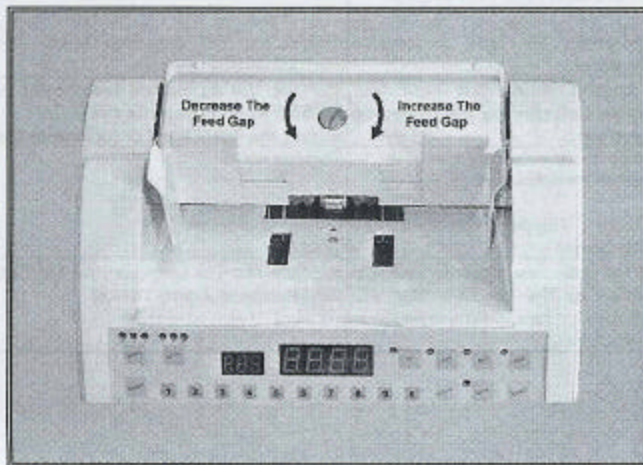
Adjustment Of The Feed Gap

The correct Feed Gap setting of the Central Feed Roller assemblies is vitally important to the smooth functioning of the machine. After extremely long-term usage, the rubber components of both the Feed Roller and the Friction Roller may be subject to natural wear. Under this condition, the Feed Gap may become too wide and, as a result, Error Codes will be generated and note feeding will become erratic.

To check and adjust the Feed Gap to counteract this simple wear condition, please use the following procedure, in conjunction with the photograph below:

1. Manually insert a genuine bank note into the Feed Gap and pull it rearwards, if you did not feel any resistance whilst removing the note, this indicates the gap is too wide. If you feel the resistance is very strong, it indicates the Feed Gap is too narrow. (When the machine leaves our factory, the initial setting of the Thickness Dial is 0).

2. If the Feed Gap is found to be too wide, please adjust the Thickness Knob counter-clockwise to slowly reduce the Feed Gap until the proper slipping-resistance is achieved with your bank note.

3. If the Feed Gap is found to be too narrow, please adjust the Thickness Knob clockwise to increase the feed gap until the proper slipping-resistance is achieved with your bank note.

Troubleshooting

Error Code	Reason	Remedy
JA	Incorrect Feed Gap setting	Adjust the Feed Gap for the correct setting
	There is a jammed note in the feed passage	Remove the jammed note by pressing the **RESET** key
HF	A partial, or folded note, has been detected	Remove the partial, or folded note, and press the **RESET** key to continue the count
	Notes in the Hopper are misaligned	Realign the notes in the Hopper
LD	Abnormal length note(s) have been detected	Remove the abnormal note(s) Press the **RESET** key to continue the count
SD	Abnormal width note(s) have been detected	Remove the abnormal note(s) Press the **RESET** key to continue the count
Ch	A chained, or abnormal, note has been detected	Remove the chained/abnormal note(s) Adjust the Feed Gap for the correct setting
Db	Double, or overlapped notes, have been detected	Take out all the notes from the Stacker, remove the double, or overlapped note from the bundle, put the bundle back into the Hopper to recount
	Incorrect Feed Gap setting	Adjust Feed Gap to proper setting
	Incorrect Double Detection level setting	Adjust the Double Detection level according to the note characteristics of ink and thickness properties
Uv	Suspect counterfeit note has been detected by the ultraviolet detection sensor	Remove the suspected counterfeit note, and press the **RESET** key to continue the count
	Incorrect UV light sensitivity setting	Adjust the UV detection level according to the note characteristics
CF	Suspect counterfeit note has been detected by the magnetic sensor	Remove the suspected counterfeit note, and press the **RESET** key to continue the count Adjust the MAG level according to the characteristics
E – 1	Notes still in/on the machine when switched ON	Remove notes
	Dirty Hopper or Stacker sensor(s)	Clean all sensors
Uv Bad	The detection system (the Uv lamp or the Uv Detection PC Board) has developed a problem	Replace the Uv lamp, or the Uv Detection PC Board - (Maintenance Agent Tasks)