

# INSTRUCTION MANUAL

2005 Edition

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# 1. OVERALL DESCRIPTIONS

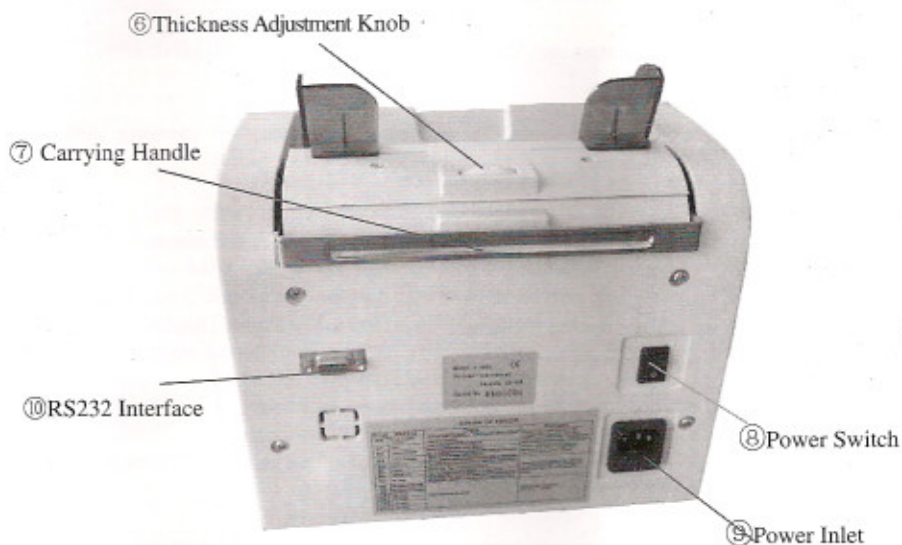
## 1-1. Names and Functions of Parts

### ■ Front View



- ① Hopper  
The counted notes are placed in it.
- ② Auxiliary Hopper Plates  
Used for leading the notes to the feeding mechanism.
- ③ Keys  
Refer to Page 5 for description of each key.
- ④ Display  
The Display shows all the message .
- ⑤ Stacker  
Counted notes are stacked onto the Stacker

## ■ Rear View



- ⑥ **Thickness Adjustment Knob**  
Used to make the smooth counting operation. If the Display shows "Ed" error during normal counting operation, adjust the Knob toward the "--" sign. If the count is performed at an inconstant speed, adjust the Knob toward the "+" sign. (default mark "0" for EURO)
- ⑦ **Carrying Handle**  
It is used for carrying the machine.
- ⑧ **Power Switch**  
It is to turn on and off the machine.
- ⑨ **Power Inlet**  
It is to connect the Power Cable.
- ⑩ **RS232 Interface**  
Used to connect the machine to a computer (PC).

## 1-2. Names and Functions of Keys

*Some optional keys(UVD, MGD, MTD) are not available in some models.*

MNL

Auto start and Manual start can be selected with MNL Key.

SPEED

An appropriate speed may be chosen by pressing this key, changeable in three levels (Fast, Normal, Slow).

C

The clear key removes the Batch number or the counted result.

ADD

The counted result will be added to the Preset Display with pressing ADD key.

0

9

Any Preset Number can be set with these ten Keys.

RESTART

Used to initiate a counting operation or to clear an error message.

DD

Used to set the machine to detect denominations in width.

DEN

By this key the reference level for two sheets detection can be changed according to the degree of colour of notes to be counted.

UVD

By this key the machine is set to recognize the counterfeit notes by the detection of fluorescent. (*Option*)

MGD

By this key the machine is set to recognize the counterfeit notes without magnetism. (*Option*)

MTD

By this key the machine is set to recognize the counterfeit notes without special internal messages in a metal thread. (*Option*)

## 2. FUNCTIONS

### ■ ADD Function

ADD

Press **ADD** key to enter this mode, and **Add** will be shown on display.



Every time the machine has completed counting, the Display will show accumulated count.

Press **ADD** Key to turn on or off this function.

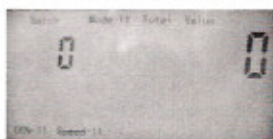
Press **C** Key to clear the accumulated count.

### ■ Doubles Detection Function.

DEN

Press **DEN** Key to enter this function.

The Machine detects the Doubles Feeding and the detection level can be selected with **DEN** Key depending on the density of notes.



The Key functions to change four different levels in the following Sequence. The default setting is DEN-I.

DEN-I → DEN-II → DEN-III → (Blank)

DEN-I	Level 1: To count for light colored (thin) notes.
DEN-II	Level 2: To count notes with the middle of Level 1 and Level 3.
DEN-III	Level 3: To count dark colored (thick) notes.
OFF(Blank)	The function should be off when counting very dark color notes or very thick notes. However the machine can not detect the Doubles Feeding.

### ■ Counting Speed Function

The counting speed can be set with this function.

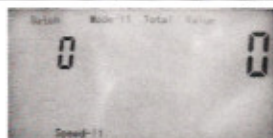
SPEED

Depending on **SPEED** key, operation is different as following:

An appropriate speed may be chosen by pressing this key, changeable in three levels (Fast, Normal, Slow).

The display indicates the Speed as following:

<b>SPEED-I</b>	600 notes/min. ( Slow )
<b>SPEED-II (Default)</b>	1000 notes/min. (Normal)
<b>SPEED-III</b>	1600 notes/min. ( Fast )



■ **UVD Detection Function (Option)**

This function is to detect the fluorescent on notes.

**UVD**

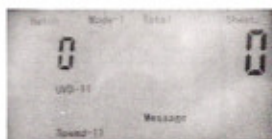
By this function the machine is made to recognize counterfeit notes by the detection of fluorescence.

A counterfeit note that does generate fluorescence under the ultraviolet rays can be detected when this function is set ON. The machine will stop at the message "CF1". The suspected note is the last one in the stacker.

Pressing **UVD** key can be used to set on the **UVD** function and select the sensitivity. The Key functions to change three different levels in the following sequence:

**UVD-I** → **UVD-II** → **UVD-III** → (Blank)

<b>UVD-I</b>	Level 1: To count for lowest sensitivity step of notes .
<b>UVD-II</b>	Level 2:(default) To count notes with middle sensitivity step .
<b>UVD-III</b>	Level 3: To count notes with highest sensitivity step.
<b>OFF(Blank)</b>	Light -out.



■ **MGD Detection Function (Option)**

This function is to detect the magnetism on notes.

**MGD**

Press **MGD** Key to enter this function.

Through this function, the machine will detect the counterfeit notes without the magnetism. When a counterfeit note is detected, the machine will stop with the message "CF2" on the display. The suspected note is the last one in the stacker. Take the suspected one

away and press "RESTART" key to continue the counting. The suspected one isn't included in the counting result.

The MGD Key functions to change four different levels in the following sequence:

**MGD-I** → **MGD-II** → **MGD-III** → **MGD-IV** → (Blank)

<b>MGD-I</b>	Level 1: To count for lowest magnetic sensitivity level of notes .
<b>MGD-II (Default)</b>	Level 2: To count notes with middle magnetic sensitivity level .
<b>MGD-III</b>	Level 3: To count notes with high magnetic sensitivity level.
<b>MGD-IV</b>	Level 4: To count notes with highest magnetic sensitivity level.
<b>OFF(Blank)</b>	This function should be off when counting notes without the magnetism.



■ **MTD Detection Function (Option)**

- This function is to detect the thread on notes.



Press **MTD** Key to enter this function and "MTD-I" will be shown on the display. Through this function, the machine will detect the counterfeit note without the metal thread. When a counterfeit note is detected, the machine will stop with the message "CF3" on the display. The suspected note is the last one in the stacker. Take the suspected one away and press "RESTART" key to continue the counting. The suspected one isn't included in the counting result.

The **MTD** Key functions to change four different levels in the following sequence:

**MTD-I** → **MTD-II** → **MTD-III** → **MTD-IV** → (Blank)

<b>MTD-I</b>	Level 1: To count for lowest sense level of notes .
<b>MTD-II (Default)</b>	Level 2: To count notes with middle sense level .
<b>MTD-III</b>	Level 3: To count notes with high sense level.
<b>MTD-IV</b>	Level 4: To count notes with highest sense level.
<b>OFF(Blank)</b>	The function should be off when counting notes without the metal thread.



## ■ AUTO Start Function

- Auto Start

The count starts automatically after loading notes onto the Hopper.

- Manual Start

**RESTART**

The count starts with pressing **RESTART** Key.

**MNL**

Auto Start and Manual Start can be selected with pressing **MNL** Key.

When the "MNL" is shown on the display, the Manual Start Function is activated.



## ■ DD Function ( Width Size)

**DD**

A width size detection function. The DD function will detect the passing note in the high size direction. When a smaller or note is detected, the machine will stop at the message "dd". Three sensitivity levels are selectable in this function.

<b>DD-I</b>	Level 1: 5 mm sense .
<b>DD-II</b>	Level 2: 4 mm sense .
<b>DD-III</b>	Level 3: 3 mm sense.
<b>OFF(Blank)</b>	The function should be off.

## 3. OPERATION

### 3-1. The default settings in factory

Turn the power switch on, the machine will be in the previous setting.  
The default settings in factory are as follow:

Function	Settings	Descriptions
DEN	DEN-1	Level 1: To count for light colored (thin) notes.
DD	DD-1	Level 1: 5 mm width size sense

UVD	UVD-11	Level 2: To count notes with middle sense step.
MGD	MGD-11	Level2: To count notes with middle magnetic sensitivity level.
ADD	OFF	ADD function is unavailable
SPEED	Speed-11	1000 notes/min
MNL	OFF	Automatic
Batch	100	100 sheets notes

Press the "Restart" button while you turn the power switch on, and keep pressing the button for 2 seconds, the machine will be in the default setting.

### 3-2. Basic Operation

#### Step 1.

Turn on the Power Switch.



ON



OFF

#### Step 2.

Set the Doubles detection Level with DEN Key.

#### Step 3.

Set various functions if necessary.

- 1 Set Count Speed. Refer to page 7.
- 2 Set Auto start Function. Refer to page 9.
- 3 Set DEN Detection Function. Refer to page 6
- 4 Set UVD Detection Function. Refer to page 7.
- 5 Set MGD Detection Function. Refer to page 7.
- 6 Set DD (Width) Size Check Function. Refer to page 9.

#### Step 4.

Set Auxiliary to the notes to be counted.



#### Step 5.

Load the notes onto the Hopper and press **RESTART** Key to count if necessary.

**Step 6.**

Remove the counted notes from the Stacker after complete stop of counting.

## 4. ACCESSORIES & OPTIONS

### 4-1. Accessories

1. Power Cable.....1
2. Instruction Manual.....1
3. Brush.....1
4. Fuse.....1

### 4-2. Options

For details of option, please contact your local distributor.

1. External Display
2. Rs-232
3. NCC disk

## 5. SPECIFICATIONS

- Ambient Temperature: 0 °C ~ 40 °C
- Ambient Humidity : 20 ~ 80 %
- Feed system : Roller Friction System
- Hopper capacity : 400 notes
- Stacker capacity : 200 notes
- Size of countable note: 50×90 ~ 110×185(mm)
- Thickness of countable : 0.05 ~ 0.2(mm)
- Batch number display : Three Digits(LCD)
- Counting Number Display: Seven Digits(LCD)
- Message Display: Three Digits(LCD)
- Power Source : AC110V ~ 220V, 50 ~ 60HZ
- Power consumption : ≤55W
- Dimensions : 272mm×235mm×239mm
- Weight : 5.5Kg
- Width detection sensitivity: 3/4/5 mm
- Length detection sensitivity: 3/4/5mm
- Counting speed:
  - ⊙ Fast : ( speed-111 ) 1600 notes/min
  - ⊙ Normal: ( speed-11 ) 1000 notes/min
  - ⊙ Slow : ( speed-1 ) 600 notes/min

## 6. 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 follow the following procedure, in conjunction with the photograph below:

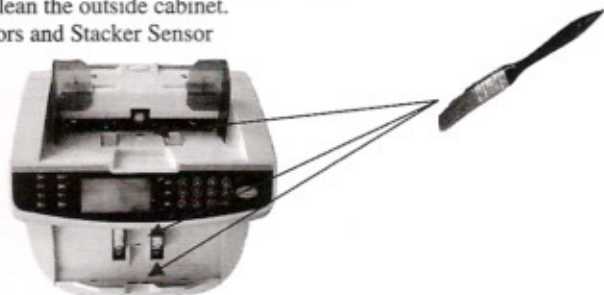
1. Manually insert a genuine bank note into the Feed Gap and pull it rearwards, if you did not feel any resistance whilst removing the note, this indicates the gap is too wide. If you feel the resistance is very strong, it indicates the Feed Gap is too narrow.
2. If the Feed Gap is found to be too wide, 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.



## 7. DAILY CARE

Clean the following Sensors with a brush periodically  
Use dry cloth to clean the outside cabinet.

Hopper Sensors and Stacker Sensor




- Count Sensors



## 8. ERRORS AND REMEDIAL MEASURES

When an error occurs during counting, the Count Display will flash the error code. Clear the error in Accordance With the following procedure.

Error Code	Cause of Error	Remedial Measures
EA	Cover hopper sensor	Remove the notes placed in the Hopper. The machine may clear itself.
E1	Notes jammed in the roller	<ol style="list-style-type: none"> <li>1. Take away jammed note(s) with hand. When there is a difficulty in taking away jammed notes, turn Kick Rollers by hand.</li> <li>2. Depress <b>Restart</b> key.</li> <li>3. Recount all the notes taken away from the Stacker.</li> </ol> <p>When this error happens very often, a) Clean count Sensors.( Refer to page 27 for more detail.)</p>  <p><b>While removing the notes, care should be taken to prevent your fingers to be pinched.</b></p>
E2	Check Stacker	<p>Notes in stacker when power on, or repeat sensor is Sticked with dust or damaged</p> <p>When this error happens without any notes on the stacker, a) Clean the stacker sensor. ( Refer to page 27 for more detail.)</p>
E3	Check Hopper	<p>Notes in Hopper when power on, or repeat sensor is Sticked with dust or damaged</p> <p>When this error happens without any notes on the Hopper, a) Clean the Hopper sensor. ( Refer to page 27 for more detail.)</p>
EH	Half-size note is fed.	<ol style="list-style-type: none"> <li>1. Take away the last note from the stacker and make sure that it is the same note as the others.</li> <li>2. Depress <b>RESTART</b> key.</li> <li>3. Recount all the notes taken away from the Stacker.</li> </ol>
Ec	More than two notes fed in chain	<ol style="list-style-type: none"> <li>1. Take away the last note from the stacker and make sure that it is the same note as the others.</li> <li>2. Depress <b>RESTART</b> key.</li> <li>3. Recount all the notes taken away from the Stacker.</li> </ol> <p>When this error happens very often, a) Readjust thickness level with Thickness adjustment Knob.</p>
Ed	Two notes are fed at a time or a dirty note is fed	<ol style="list-style-type: none"> <li>1. Take away the last note from the stacker and make sure that it is the same note as the others.</li> <li>2. Depress <b>RESTART</b> key.</li> <li>3. Recount all the notes taken away from the Stacker.</li> </ol> <p>When this error happens very often, a) Readjust thickness level with Thickness adjustment Knob. b) Clean Count Sensors.</p>
dd	A note with different width than the first note.	<ol style="list-style-type: none"> <li>1. Take out the last note from the stacker.</li> <li>2. Check the denomination and width of the last note.</li> <li>3. Depress <b>RESTART</b> key to continue the counting.</li> </ol>
CF1	Suspected counterfeit note is detected by UVD function.	<ol style="list-style-type: none"> <li>1. Take away the last note from the stacker and make sure that it is the same note as the others.</li> <li>2. Depress <b>RESTART</b> key.</li> <li>3. Recount the last notes taken away from the Stacker.</li> </ol> <p>When this error happens very often, UVD is working abnormally. a) Turn off and on the Power Switch. b) If the error can not be cleared, please contact to your service partner.</p>

Error Code	Cause of Error	Remedial Measures
CF2	Suspected counterfeit note is detected by MGD function.	<ol style="list-style-type: none"> <li>1. Take away the last note from the stacker and make sure that it is the same note as the others.</li> <li>2. Depress RESTART key.</li> <li>3. Recount the last notes taken away from the Stacker.</li> </ol> <p>When this error happens very often, MGD is working abnormally.</p> <ol style="list-style-type: none"> <li>a) Turn off and on the Power Switch.</li> <li>b) If the error can not be cleared, please contact to your service partner.</li> </ol>
CF3	Suspected counterfeit note is detected by MTD function.	<ol style="list-style-type: none"> <li>1. Take away the last note from the stacker and make sure that it is the same note as the others.</li> <li>2. Depress RESTART key.</li> <li>3. Recount the last notes taken away from the Stacker.</li> </ol> <p>When this error happens very often, MTD is working abnormally.</p> <ol style="list-style-type: none"> <li>a) Turn off and on the Power Switch.</li> <li>b) If the error can not be cleared, please contact to your service partner.</li> </ol>

## 9. APPENDICES:RS232 INTERFACE(OPTION)

This model machine is build-in with a RS232 Serial Port which shown as near view. This interface is used to connect the machine to a computer.(PC)

### •Connecting the note counter to a computer

An option of NOTE COUNTER CONTROLLER (NCC) is available. When the NCC is installed, the computer can receive and display the current status of the counter.

Turn off both the computer and note counter. Then connecting one end of the serial cable to the serial port of your computer, and the other end to the RS232 port of the note counter.

Restart the computer and turn on the note counter.

Running the NCC.EXE, the computer will find and connect to the note counter.

### •Connecting the Remote Display

An option of the Remote Display is available.

The Remote Display will show the counting results synchronizing when connected to the RS232 interface of the note counter.