RBC-EP1600

Platinum 1 Pocket
Currency Discriminator

OPERATING MANUAL

Thank you for purchasing the Royal Sovereign Platinum 1 Pocket Currency Discriminator, RBC-EP1600. This manual will provide you with safety information, instructions for optimal use, and proper care and maintenance for your product. Please read this manual carefully before operating.

CONTENTS

SAFETY INSTRUCTIONS

Always be careful when using the machine. To reduce the risk of fire, electrical shock, or other injuries, keep these safety considerations in mind when installing, using, and maintaining your machine:

⚠ WARNING

1. Place the machine on a secure, stable surface. The machine can be seriously damaged if it falls.
2. Provide the correct power to the machine, as listed on the back of the machine.
3. If the plug has three prongs, it must be plugged into a grounded (three hole) outlet. Grounded plugs and outlets are designed for your safety. Do not try to make a three-prong plug fit into a two-prong outlet by modifying the plug or outlet in any way.
4. Do not plug too many electrical devices into a wall outlet or into an extension cord.
5. Before dusting the machine, unplug it from the power outlet. Clean exposed parts with a soft cloth slightly dampened with water. Do not use aerosol cleaners.
6. Never use any machine close to a gas leak. If you think gas is leaking, call your gas company immediately. A small electrical spark in the machine could cause a fire or an explosion.

⚠ CAUTION

1. Never push objects of any kind into your machine through the case or cabinet openings.
2. Do not use your machine near water, in wet locations, or outdoors.
3. Do not allow anything to rest on the power cord.
4. Do not place your machine where the cords can be damaged.
5. Use supplies or cleaning materials only as directed. Keep all supplies and materials out of reach from children.
6. The power supply turns this machine on and off. Make sure that your machine is installed near an outlet and is easily accessible.
7. Never remove covers or guards that require a tool for removal. Refer servicing to authorized service personnel.
8. Never alter the interlock switches. This machine is designed to restrict the operator access to unsafe areas. Covers, guards, and interlock switches are provided to ensure that the machine will not operate when the covers are open.
9. Avoid direct viewing of the image sensor lights. The lamps are bright and, while not harmful, may cause an annoying afterimage. Always keep the rear cover closed during operation and storage.

BOX CONTENTS

Bill Counter

Power Cord

External Display

Calibration Paper

PRODUCT VIEW

No.	Parts	Note
1	Guide for Counting Notes	Expansion guide
2	Hopper	
3	Thickness Adjustment Screw	Gap control screw
4	Control Panel	
5	Stacker	
6	Back Cover	
7	Power Plug	
8	Power Switch	
9	Printer Port	
10	USB Port	
11	External Display Port	

CONTROL PANEL

Key	Description	Key	Description
0 MODE	Change the counting mode (Count Mode, Sort Mode, and Mixed Mode).	5 C	Clear the screen
1 CUR	Change the currency.	6 ▲M/A	Manual / Auto Counting
2 ADD	Add Mode	7 SET/OK	Confirm and enter the selected mode. Print Button.
3 REPORT	View the bill count report.	▼ BATCH	Batch Mode
4 S/P	Change the bill counting speeds.	START	Start Button

Key	Action
0 MODE	This key can be used to select the bill counting mode. You can select MDC (Mixed), SDC (Sort), or CNT (Count).
1 CUR	This key can be used to select which currency you will be counting. 1. USD – United States Dollar 2. CAD – Canadian Dollar 3. EUR – Euro 4. GBP – Pound Sterling 5. RUB – Russian Ruble 6. MXN – Mexican Peso 7. ARS – Argentine Peso 8. BRL – Brazilian Real 9. KRW – South Korean Won Page 2 (Press **0 MODE** enter this page) 1. CNY – Chinese Yuan Renminbi 2. JPY – Japanese Yen 3. HKD – Hong Kong Dollar
2 ADD	This key can be used to turn on Add mode. This mode will count the bills placed into the hopper and add that amount to the next bills counted.
3 REPORT	This key can be used to show the counting details. (Count Report shown on page 10)
4 S/P	This machine has 4 different speeds. This key can be used to select your bill counting speed. **800** notes/minute (Available in Sort and Mix Mode) **1,000** notes/minute (Available in Sort and Mix Mode) **1,200** notes/minute (Available in Count Mode) **1,500** notes/minute (Available in Count Mode)

Key	Action
5 / **C**	By pressing the "CLEAR/BACK" key, you can clear the counted number and total value after counting.
6 / **▲M/A**	This key can be used to choose between Manual counting or Auto counting.
7 / **SET/OK**	OK: this key can be used to confirm the count mode, exit the corresponding interface, or print the counting result in MDC (Mix) mode. SET: this key can be used to enter into the setting menu of the machine.
▼ / **BATCH**	This key can be used to count in batch mode. Press this key and the display will look like the image below: Press the 10 numeric batch keys from 0 to 9 to set the batch number. The batch function will be On. Press the "BATCH" key to clear the batch number and the batch area will show 0 and the batch function will be Off. BATCH ON Press number key to modify 100 Press START to save
START	This key can be used to start counting your bills, or to get back to normal counting mode.

PRODUCT OPERATION

1. PLACING BILLS INTO HOPPER

It is very important to place the bills into the hopper correctly because recognition performance of the bills is highly affected by the arrangement of the bills. Please avoid counting bills in bad conditions such as wet, excessively dirty, folded, curled notes, or with foreign material like clips, bands, etc., as it may cause a malfunction of the machine.

2. COUNTING

If Add mode is set, the cumulative number will be displayed.

If an error occurs during operation and the machine stops, then an error message will be displayed. To clear the error, press the "C" key. The machine will solve the problem automatically, however if it fails to clear a jam or there is some other mechanical error, please remove the jammed bills manually. Then, press the "C" key again to clear the error message.

COUNT MODE (By pressing the "MODE" key)

The machine can count the bills without any denomination recognition.

SORT MODE (By pressing the "MODE" key)

The machine can catch the different denomination bill while counting. In this mode, the machine will read the first bill that goes through and sort based on that denomination. Therefore, if a mixed bill is stuck in the pile, the machine will display an error code informing the user of the different denomination.

MIX MODE (By pressing the "MODE" key)

The machine can read the value counting for mixed notes and the total amount will be displayed on the screen. Under this mode, if you press the "REPORT" key after counting, you can see the breakdown of the denomination as per picture below. By pressing the "C" key, you can then return to the previous screen.
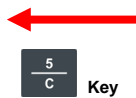
3. CHECKING SERIAL NUMBERS

The machine can record the serial numbers of the bills that are counted. The display will show the denomination and serial number of the bills in order of how they went through the machine. From the Report screen, press the "REPORT" key again to see the serial numbers for the bills.

4. SELECTING ADD FUNCTION

The Add function provides a cumulative count for the operator. The machine counts and stops when the stacker is full. After removing those notes from the stacker, you can begin counting again, and the total counted number will be increased from the previous total.
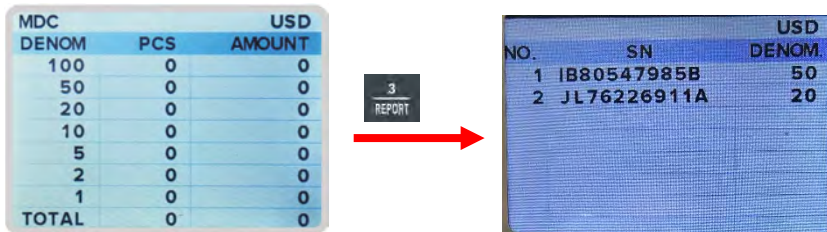
The Add function is On or Off by pressing the "ADD" key. You can clear the counted value by pressing the "C" key.

5. SELECTING BATCH FUNCTION

The "BATCH" key is used to select a preset batch number. In the batch count mode, the machine stops counting when the counted number reaches the set number, even though bills may remain on the hopper. The user can edit the batch number by pressing the "BATCH" key + 1~9 number keypad.

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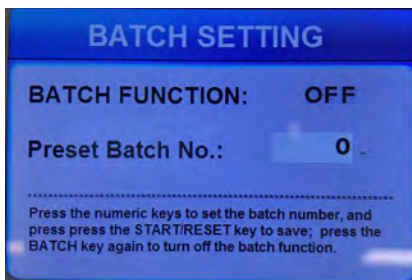
6. SELECTING AUTOMATIC/MANUAL COUNTING

The machine is preset to Automatic Mode.

In Automatic mode, when the hopper sensor detects banknotes on the hopper, the machine will automatically start to count the bills.

To change to manual mode, press the "M/A" key.

In Manual mode, the machine will not count the bills automatically even though the bills are on the hopper. When the user presses the "START" key manually, the machine will count the notes.

While counting, the machine will display the number of the bills on the TFT display and it may stop working when it meets the conditions described below:

- No bills on the hopper
- The number of the bills counted is the same as the batch number set in Batch mode.
- Errors have occurred.

When the machine finishes counting without errors, the number of counted bills will be displayed on the TFT screen.

7. MENU

To enter the Menu, select the "SET/OK" key. Use the arrow keys to toggle between up and down.
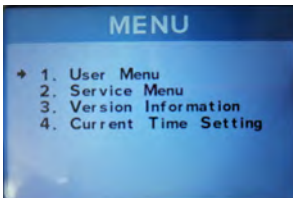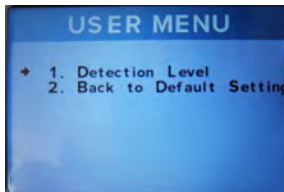
MAIN SETTING MENU   USER MENU   SERVICE MENU
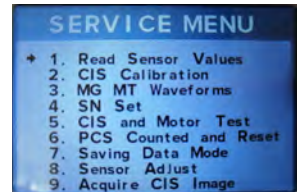
8. THERMAL PRINTER (OPTIONAL)

Available Printers: Compatible via RS232 Printer.

RBC-EP1600

Operating Printer

- Count banknotes
- Press the "REPORT" key
- Press the key to print the report.
  (The user can print again and again by pressing the key.)
- Print function can only work under "MIXED" or "SORT" mode.

Printer Error
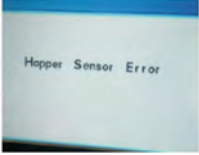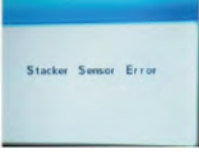
- Check the printer and printer settings.
- Check the cable pin assignment.

Normal receipt		
DENOMI	PCS	AMOUNT
100	0	0
50	0	0
20	1	20
10	2	20
5	0	0
2	0	0
1	3	3
NOTES	6	43

USD
2019 – 6-27 14:41:54

1	ABCHOY2980BZ
1	XVEEIU03892NZ
1	FLPWDUS2595A
10	IWQRS654327XZ
10	QXFGDOT3486B
20	WSXGTU90807V

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ERROR MESSAGES & TROUBLESHOOTING

Error Code	Error Cause	Error Solution
E1	Suspect note flagged for UV	Remove the first bill from the stacker. Press "START" to continue counting.
E2	Double notes (2 pieces stuck together)	
E3	Chain note	
E4	Broken note / half note	
E10	Suspect note with wrong image (CIS error)	
E11 and E12	Suspect note with image error (denomination)	
E13	Suspect note with image error (bill facing error)	
E14	Suspect note with image error (bill size error)	
E15	Suspect note with image error (bill backside error)	

ERROR MESSAGES & TROUBLESHOOTING *(Continued)*

Error Code	Error Cause	Error Solution
E20	Metal Thread Detector error	Clean the sensor. If error continues, sensor may need to be changed. Contact Royal Sovereign if error persists.
E21	MG1 error	
E22	MG2 error	
E23	MG3 error	
E24	MG4 error	
	Hopper sensor error	Clean the sensor. If error continues, sensor may need to be changed. Contact Royal Sovereign if error persists.
	Stacker sensor error	Clean the sensor. If error continues, sensor may need to be changed. Contact Royal Sovereign if error persists.
	Main motor error	Motor needs to be changed. Contact Royal Sovereign if error persists.

ERROR MESSAGES & TROUBLESHOOTING *(Continued)*

Error Message	Cause of Error	Solution
E30	IR transmission area 1	Clean the sensor. If error continues, sensor may need to be changed. Contact Royal Sovereign if error persists.
E31	IR transmission area 2	
E32	IR transmission area 3	
E33	IR transmission area 4	
E34	IR transmission area 5	
E35	IR transmission area 6	
E36	IR transmission area 7	
E37	IR transmission area 8	

ERROR MESSAGES & TROUBLESHOOTING *(Continued)*

Error Message	Cause of Error	Solution
E38	IR reflect area 1	Clean the sensor. If error continues, sensor may need to be changed. Contact Royal Sovereign if error persists.
E39	IR reflect area 2	
E40	IR reflect area 3	
E41	IR reflect area 4	
E42	IR reflect area 5	
E43	IR reflect area 6	
E44	IR reflect area 7	
E45	IR reflect area 8	

SPECIFICATIONS

Model	RBC-EP1600
Dimensions (WxDxH)	10.08" W x 11.02" D x 10.82" H
Weight	13.20 lbs.
Hopper Capacity	600 pcs
Stacker Capacity	200 pcs
Display Type	TFT
Currencies	USA, CAD, EUR, GBP, RUB, MXN, ARS, BRL, KRW, CNY, JPY, HKD
Counting Speed	800 / 1000 / 1200 / 1500
Preset Batch Number	1 – 999
Counterfeit Detection	MG, UV, IR, CIS
Power Requirements	110V – 240V, 50/60 Hz

DAILY CARE

WARNING: Before dusting, turn the power switch off and disconnect the power cord from the machine. It is very important to clean all the sensors in the machine with a soft brush to avoid any paper particles or dust from sticking to the light transmitter or the light-receiver sensors. It is important to clean the inside of the machine occasionally. Unplug the machine and lift the top cover to gain access to the interior.

If necessary, the glass surfaces of the detectors may also be wiped with a soft cloth damped with alcohol.

To get the best results out of your bill counter, Royal Sovereign recommends using **Royal Sovereign Cleaning Cards (RBC-CLN)** to remove dirt, dusts, oils, and other contaminates from your bill counter. With the machine on, simply run the cleaning card through the machine like a bill. This cleaning card will run through and clean the sensors of dirt and other contaminates. Cleaning cards are recommended to be used after every 100 cycles.

CAUTION:
DO NOT CHANGE THE POSITION OF THE DETECTORS AND/OR OPTICAL SENSORS.

ONE YEAR LIMITED WARRANTY

Royal Sovereign International, Inc. warranties this product to be free from defects in material and workmanship for a period of one (1) year. This warranty is extended to the original purchaser only.

This warranty only covers products that are properly installed, properly maintained, and properly operated in accordance with the instructions provided. This limited warranty does not cover any failures or operating difficulties due to normal wear and tear, accident, abuse, misuse, alteration, misapplication, improper installation, or improper maintenance and service by you or any third party.

Returned product will not be accepted without a Return Authorization number. To request a Return Authorization number, please visit us at www.royalsovereign.com. All transportation costs for the return of damaged product or parts will be the responsibility of the purchaser. Return defective product, in original packaging, to the address below.

Royal Sovereign International, Inc. requires reasonable proof of your date of purchase from an authorized retailer or distributor. Therefore, you should keep your receipt, invoice, or canceled check from the original purchase. The limited warranty shall be limited to the repair or replacement of parts which prove defective under normal use and service within the warranty period.

Royal Sovereign International, Inc. (and its affiliated companies) SHALL HAVE NO LIABILITY WHATSOEVER TO PURCHASER OR ANY THIRD PARTY FOR ANY SPECIAL, INDIRECT, PUNITIVE, INCIDENTAL, OR CONSEQUENTIAL DAMAGES. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above exclusion and limitations may not apply to you.

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