

BC2000-US Series

Currency Counter

Operation Instructions



Content

Introduction.....	2
Adjustment Of The Feed Gap	3
Specifications.....	4
Key Panel	5
Key Function	5
Precautions.....	6
Operating.....	6
● Start.....	6
● Adjust the Note Guides.....	7
● Working Mode Selection.....	7
● Select the denomination banknotes.....	7
● Speed Selection.....	7
● Batch Setting.....	8
● Accumulation.....	8
● Notes Setting.....	8
● Operation.....	9
● Function Setting.....	9
● Display Setting.....	10
Troubleshooting.....	11
Daily Maintenance.....	12

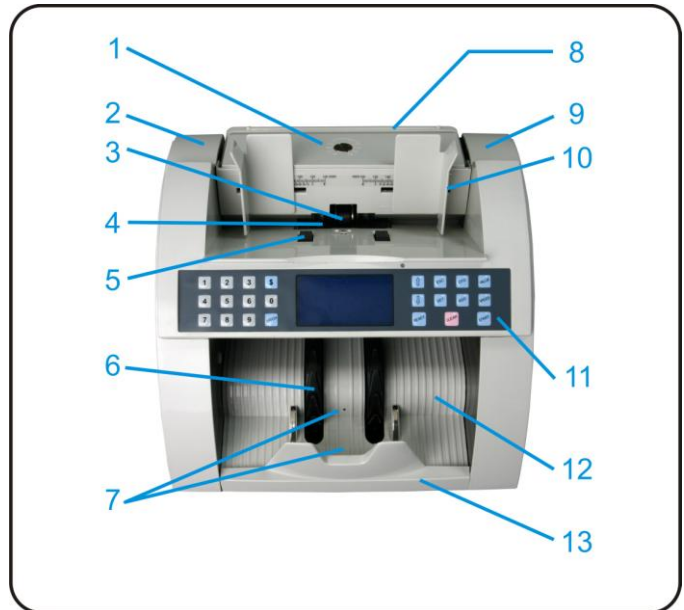
Introduction

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

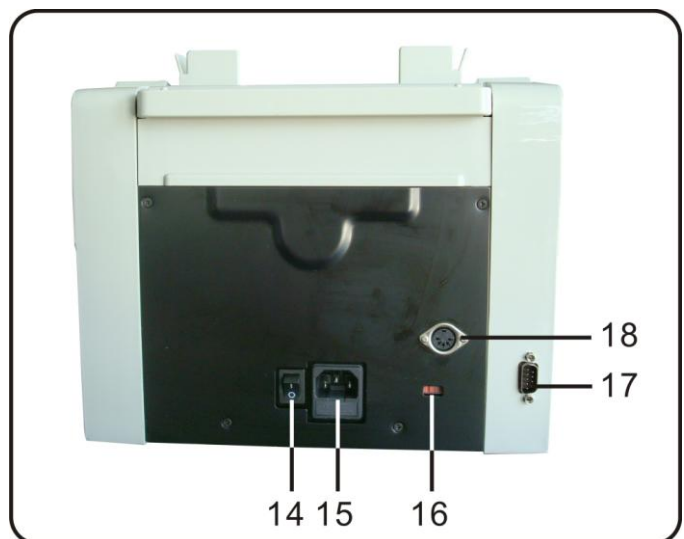
Should you have any doubts, please contact your local distributor, or sales agent, for further advice.

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. Voltage Switch
- 17. RS232 Socket
- 18. Remote Count Display (RCD) Socket (option)



Adjustment Of The Feed Gap

The correct Feed Gap setting of the Central Feed Roller assemblies is vitally important to the smooth function 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 operate according to the following procedure, combined with the photograph below:

1. Manually insert a genuine banknote into the Feed Gap and pull it backwards, if you did not feel any resistance while removing the note, it 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 2).
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 banknote.
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.



Feed Gap Adjustment Knob







Specifications

Counting Speed	1,500 pieces/minute (High speed) 1,100 pieces/minute (Standard speed) 800 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
Display	LCD
Counting Modes	Continuous Counting Mode Batch Counting Mode Accumulation Counting Mode Automatic, or Manual Start Mode
Counting Display	5 Digits on the larger LCD Display area
Batch Display	3 Digits on the smaller LCD Display area
Remote Count Display	4 Digits on a Remote LED Display (Option)
Working Mode	Normal mode Continuous Counting Mode Batch Counting Mode Value Counting Mode Accumulation (Total) Counting Mode Automatic, or Manual Start Mode
Batch	Preset 100-50-10 or arbitrary number (0-999) through numeric keys
Detection Modes	Double Detection Mode Narrow Dimension Detection Mode UV Counterfeit Detection Mode MG Counterfeit Detection Mode
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	5.1 Kg

Key Panel



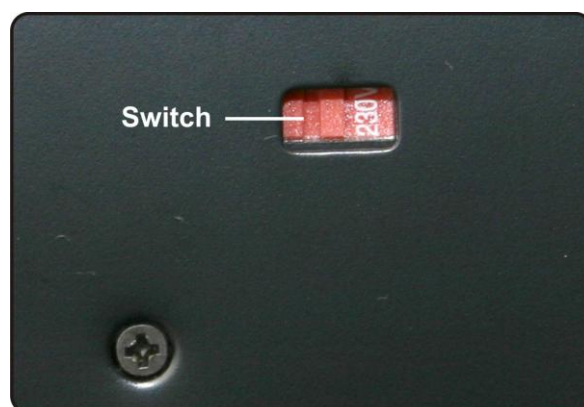
Key Function

Key	Function Description
NUMERIC KEY	Press the ten numeric key for inputting the batch counting number (0-999).
\$	Press VALUE key to enter into VALUE mode, press \$ key to select denomination, the default denomination is \$100, it will display \$50,\$20,\$10,\$5,\$2,\$1 in turn. The denomination selected by last operation will be saved, when you enter into VALUE mode next time, the display will show the denomination set last time.
BATCH	Press this key for selecting the default batch counting number or Continuous Counting Mode. The default batch number is 100, 50 ,10, then exit. Keep pressing the BATCH key for 3 seconds, you can turn on/off the buzzer.
	<p>   Press  key to increase the contrast of LCD, press  key to decrease the contrast. There are 7 levels to select (0~6), the default setting is 4. After setting, press CLEAR to exit. </p> <p> Press SET key to enter into menu interface, press   to change the current selection. </p>
SET	Press SET key to enter into Function setting interface. Then press SET key to change function setting condition.
ESC	Press Esc key to change the brightness of LCD. The recommended level is 2. Press Esc to exist from function setting interface.
CFD	Press CFD key to turn on/off the counterfeit detetion function (UV Detection, Magnetic Detection) .
ADD	Press this key for selecting the Accumulation Mode on or off. In Denomination mode, press ADD key to show the accumulation amount.
VALUE	Press this key to select different working modes: NORM→VALUE

SPEED	Press SPEED key to select three counting levels: SP-L means lower counting speed, SP-M means medium counting speed(default),SP-H means high counting speed
RESET	In NORM counting mode, press RESET key to show the quantity of counted notes. In VALUE counting mode, press RESET key to show the denomination, amount and accumulation amount of the counted notes. Keep pressing RESET key for 3 seconds, the machine will default back to the factory setting, it will show DEFAULT...
CLEAR	Press this key to clear the error code、counting number、accumulation number、batch number。
START	Press this key to clear the error code and continue counting when an error occurs. In manual counting mode, press START key to start the machine.
LCD DISPLAY	to display the status under each mode.(matrix 128*64)

Precautions

Before connecting your currency counter with the local domestic mains supply, please ENSURE that your local mains voltage is correctly shown by the Switch, either '110' or '220' volts, mounted on the rear of the machine. If the indication is incorrect, ensure the machine is disconnected with the electrical source. Then the Switch can be easily moved to the correct position using a suitable blunt implement.



DO NOT drop any clothing, hair, paper clips, staples, etc., into the Hopper area. If the Optical Sensor is obscured, the Document Feeding System will operate without warning.

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

OPERATION

To make the best use of the machine, please operate in the following procedures.

● Start

Turn on the Power Switch on the rear of the machine. The machine will enter into a 'Self-Test' mode. The display will show "BC2000-US" and the Motor systems will run for approximately 1 second, then, if correct, the Motors will stop and the display will change to

show as in Fig.1

1. Turn on the power supply, the machine enters into self-testing mode, the display shows: BC2000 -US.

In the meantime the main motor rotates for 1 second in low speed.

2. If self-testing is correct, the main motor stops, the display shows as following:



Fig.1

● adjust the Note Guides

After function setting is completed, it is important to adjust the distance between the two Note Guides according to the length of the notes to be counted.



● Working Mode Selection

Users can select the mode as in needed with the procedures as follow.

Press the VALUE key to change between Value mode as is in Fig.2, and Normal mode as is in Fig.1



Fig.2

● Select the denomination banknotes

In Value counting mode, you can press \$ key to select the face value of notes.

→\$100→\$50→\$20→\$10→\$5→\$2→\$1

● Speed Selection

NOTE

- When the bank notes being counted are in a distressed condition, and lacking in dimensional stability, the lowest speed of **800** per minute should be selected.
- Bank notes of reasonably good 'street quality' are normally best counted at the middle setting of **1,100** per minute.
- Counting at the highest speed of 1,500 notes per minute should only be used for bank notes in new, to very good, condition.

Press the SPEED key to select the different Counting Speeds. (Table1)

Table 1:

Level	Speed
SP-L(low)	800pcs/min
SP-M(middle)	1100pcs/min
SP-H(high)	1500pcs/min

● Batch Setting

- Press BATCH key to select default Batch Number.
100→50→10→OFF→100
- Input your desired/random number (0-999), simply by press the numeric keys.
- Pressing CLEAR key, the displayed batch number can be cleared and turn off the function.

● Accumulation

- Press **ADD** key to turn the function ON or OFF.
- Under Normal mode the counting number will be accumulated on the last counted number.



Fig3

- In Value mode, it will show the accumulation amount TTL:\$0, as Fig3, N means the counted number.

● Notes Setting

Place the notes in the Hopper, ensure that the lower end of the bundle are inserted firmly into the rear of the feed area. (Please look at the following photographs for your guidance): The machine will start counting automatically.



● Operation

- 1) If AUTO START is ON, the machine starts counting automatically when you place the notes in the hopper.
- 2) If AUTO START is OFF, the machine will start work unless you press START.
- 3) LCD displays the notes number or value of the counted notes (in accordance with the working mode)
- 4) When batch number is reached, the machine stops. If the AUTO START is ON, when you take away the notes from the stacker, the machine continues counting; If AUTO START is OFF, you need to press START key to start when notes are removed.
- 5) When counting finishes
 - If ADD is ON, the counting result is the sum of this counting and previous counting. In Value mode, the machine will show accumulation amount.
 - If ADD is OFF, it shows the current counting result only.

● Function Setting



In Normal mode and Value mode (Fig.1 , Fig.2), press SET key to enter into function setting menu interface as Fig.4. Press ESC to go back to working mode.






Fig.4


When the machine enters into function setting menu, press   or SET key to change setting.



1) State mode setting: press SET to select ON→OFF→ON in turn. After setting, press ESC to exit setting or continue the next setting.

2) Press  key, the cursor moves to next line, that is width detection sensitivity setting: Press SET key to select 5MM→OFF→3MM→4MM→5MM in turn. After setting , press ESC to exit or continue the next setting, press  to go back to previous setting.

3) Press  key, the cursor moves to next line, that is double detection sensitivity setting: press SET key to select A→L→S→H→OFF→A. After setting, press ESC to exit or continue the next setting, or press  to go back to previous setting.

4) Press  key, the cursor moves to next line, that is UV detection sensitivity setting: Press SET key to

select LEVEL 2→LEVEL 3→OFF→LEVEL 1→LEVEL 2(the LEVEL 1 indicates a LOWEST detection sensitivity, the LEVEL 2 indicates a STANDARD detection sensitivity, and the LEVEL 3 indicates the HIGHEST detection sensitivity), After setting, press ESC to exit or continue the next setting, or press  to go back to previous setting.

5) Press  key, the cursor moves to next line, that is MG detection sensitivity setting: Press SET key to select LEVEL 1(For bills with a low magnetic response)→LEVEL 2 (For bills with a normal magnetic response)→LEVEL 3(For bills with a high magnetic response)→OFF→LEVEL 1. After setting, press ESC to exit or continue the next setting, or press  to go back to previous setting.

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

Auto Start	ON
Width Detection	5 mm
Double Detection	A
UV Detection	Level 2
Magnetic Detection	Level 1
Counting Speed	1100 pieces/minute (Standard)
Counting Mode	Continuous Counting
Accumulation Counting	OFF

How to get back to the default setting:

Keep pressing RESET key for 3 seconds, the display shows DEFAULT..., which means it is resuming

● Display setting

In Normal mode and Value mode(Fig.1 , Fig.2), press RESET key to switch the display mode, as Fig.5, Fig.6, Fig.7

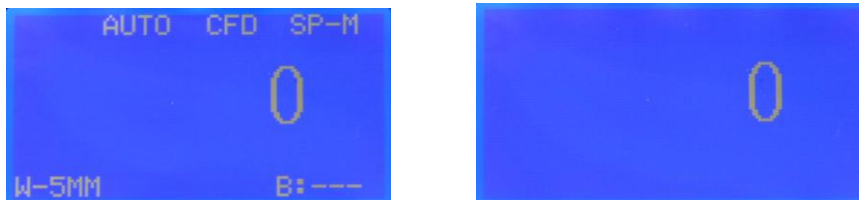


Fig.5



Fig.6



Fig.7

Troubleshooting

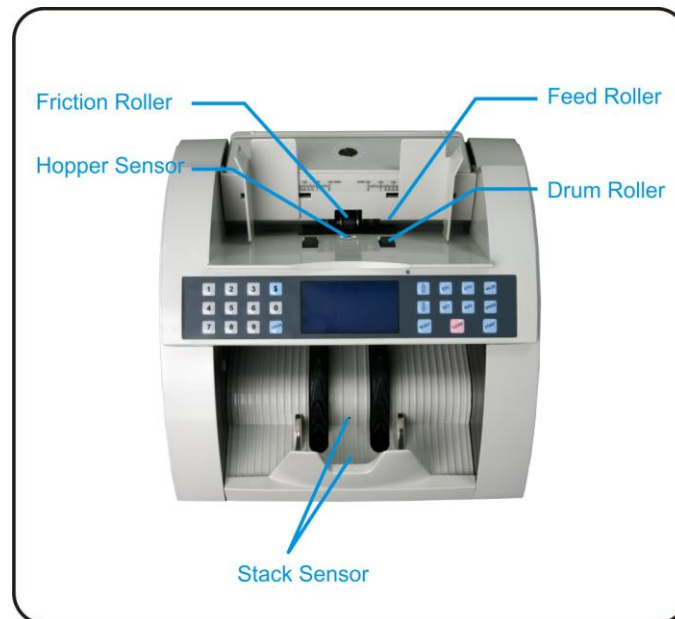
Flash Symbol	Reason	Remedy
RECOUNT	Double notes, or chained notes detected	Sort out the double note(s) or chained notes and count again
	Unrecognized note counted in Mixed Counting Mode	Sort out the unrecognized note and count again
JAMMING	Incorrect Feed Gap setting	Adjust the Feed Gap for the correct setting
	There is a jammed note in the feed passage	Remove the jammed note by pressing the START key
HALF NOTE	A partial, or folded note, has been detected	Remove the partial, or folded note, and press the START key to continue the count
	Notes in the Hopper are misaligned	Realign the notes in the Hopper
NARROW NOTE	Abnormal width note(s) have been detected	Remove the abnormal note(s) Press the START key to continue the count
CHAINED NOTES	A chained, or abnormal note has been detected	Remove the chained/abnormal note(s) Adjust the Feed Gap for the correct setting
DOUBLE NOTES	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

UVD SUSPECT	Suspect counterfeit note has been detected by the ultraviolet detection sensor	Remove the suspected counterfeit note, and press the START key to continue the count
	Incorrect UV light sensitivity setting	Adjust the UV detection level according to the note characteristics
MAG SUSPECT	Suspect counterfeit note has been detected by the magnetic sensor	Remove the suspected counterfeit note, and press the START key to continue the count Adjust the MAG level according to the characteristics
ERR-HS	Hopper Sensor is covered by dust or notes; Hopper Sensor is broken;	Clean the Hopper Sensor and remove the notes in Hopper; Contact with your local distributor;
ERR-LCS	Left Counting Sensor is covered by dust or jammed notes; Left Counting Sensor is broken;	Clean the Left Counting Sensor and remove the jammed notes in counting passage; Contact with your local distributor;
ERR-RCS	Right Counting Sensor is covered by dust or jammed notes; Right Counting Sensor is broken;	Clean the Right Counting Sensor and remove the jammed notes in the counting passage; Contact with your local distributor;
ERR-ES	Encode System has problem;	Contact with your local distributor;
ERR-SS	Stacker Sensor is covered by dust or notes; Stacker Sensor is broken;	Clean the Stacker Sensor and remove the notes in Stacker; Contact with your local distributor;

Daily Maintenance

Please maintain the machine via this simple daily procedure:

1. Turn the Main Power Switch OFF and disconnect the Mains Power Cord with 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:



In addition, please maintain the machine using this relatively simple monthly routine:

1. Turn the Main Power Switch OFF and disconnect the Mains Power Cord with the rear of the machine.
2. Using a piece of clean, lint-free cloth and an approved non-toxic solvent fluid, carefully clean the surface of the following parts, which are identified in above photograph. Do not allow any fluid to come into contact with ANY electrical parts. Friction Rollers, Feed Rollers, Drum Rollers, Stacker Sensors, Central Hopper Sensor and the Outer Plastic Covers.