User Manual

Banknote Counter
Operation Guide

Preface

Thank you for using intelligent banknote counter. It is the latest developed high-performance intelligent counterfeit detector applying digital fuzzy processing technology. Suitable for counting the total number of the currency such as EUR、USD、GBP, etc. The structure design and performance are more scientific and the counterfeit detection ability is more outstanding.

In order to make best use of the accurate banknote counting capability and outstanding counterfeit detection function of the unit, please read this manual carefully before using the unit and operation as per the procedures stipulated in the manual.

Contents

Prepared by	Reviewed by	Approved by

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Unpacking

Please check whether the appearance of the machine is in good condition and whether all of the accessories are available. Inside the package there shall be the following.

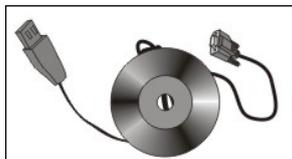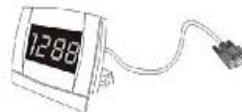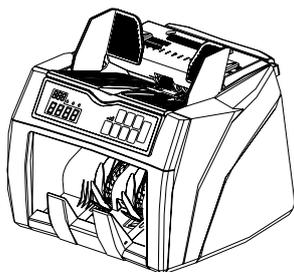

Power Cable   User Manual   Cleaning Brush   Fuse

USB cable (optional)   External LED display (optional)   RS-232 cable (optional)

Banknote counter

Exterior introduction

1. Three-view drawing
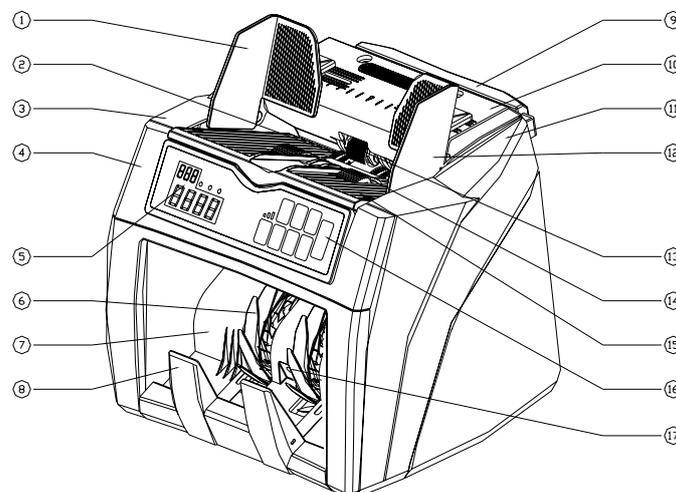
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(1) Left hopper guide
(2) Banknote transporting wheel
(3) Left cover
(4) Control panel cover
(5) LED screen
(6) Banknote stacker wheel
(7) Stacker panel
(8) Stacker
(9) Handle

(10) Top cover
(11) Right cover
(12) Right hopper guide
(13) Banknote feeding sensor
(14) Banknote feeding wheel
(15) Hopper
(16) Control panel
(17) Banknote receiving sensor

2. Back view
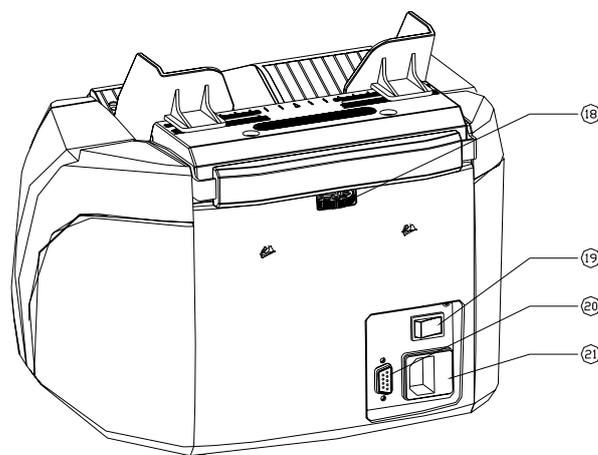
(18) Adjusting Screw
(19) Power Switch

(20) Multi-purpose Interface
(21) Power Socket

3. Operation panel
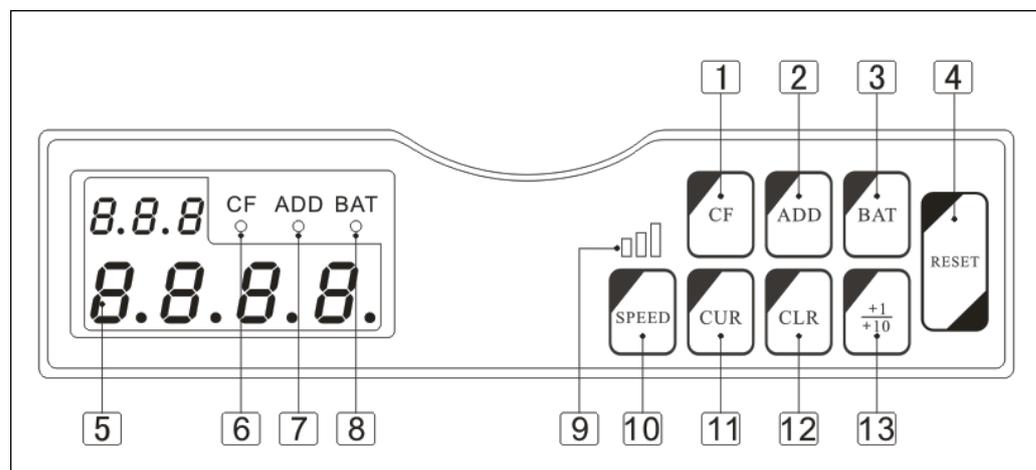
① CF: Press this key to switch the counting mode

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② ADD: Press this key to enter the Add function (Accumulative counting)

③ BAT: Press this key to set the batch function

④ RESET: Press this key to start counting

⑤ LED: Display message

⑥ CF Light

⑦ ADD Light

⑧ BAT Light

⑨ SPEED Light

⑩ SPEED: Press this key to set counting speed. (L= Low, M=Medium and H=High)

⑪ CUR: Press this key to select currency

⑫ CLR: Clear count memory

⑬ +1/+10: Use this key to set the batch number

Operation instructions

If you will count Euro banknotes, please put the left hopper guide and right hopper guide to the "€" symbol position on the top cover.

Place the banknotes counter placidly, ensures there is no strong electromagnetic field and strong sunshine interfering around it. Then plug the electric socket into 100-240V electric source. If you have purchased an external display, connect it to the multi-purpose interface on the back of the banknote counter.

Turn on the power switch, the machine displays the software version first, then performs a self test. If the test is successful, the machine will enter into ready state. If any other symbols are displayed, please handle them according to the troubleshooting on page 8 in this manual.

Note: In order to ensure personal safety, the electric socket shall be properly grounded.

Note: In order to avoid error counting/detecting, the following banknotes shall be eliminated before counting.

① Banknotes mended with white paper

② Banknotes which were washed

③ Banknotes seriously contaminated

④ Banknotes damaged or broken

Before counting the banknotes, you should eliminate the contamination or paper stuck on the banknotes first. Next put banknotes in order, with small denomination notes in the middle where possible, then set the hopper guide to a suitable position based on the width of the banknotes. Last put the banknotes on the banknote feeder flatly and the counter will start counting. (See Figure 1 and Figure 2) If you will count banknotes that are of the same size, please put them in order and do the operation according to Figure 2.

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Figure 1   Figure 2

When a piece of counterfeit banknote is found, the machine will stop immediately, and the buzzer will beep．The top piece on the stacker is a piece of counterfeit or suspicious one (see figure 3).Eliminate the counterfeit banknote, press the "RESET" key, the machine will continue the counting.

Figure 3

Note: When an error is found, and causes the machine stopping abnormally, please re-count these banknotes.

Function keys operating instructions

1. Select counting code

Press the "CF" button. If "CF" light is on, the machine will count the quantity of banknotes in same denomination and detect counterfeit. If "CF" light is off. The machine will count the quantity of banknotes and don't detect counterfeit.

2. Select currency

After turning on the machine, the symbol of current currency is displayed. If you need to count another sort of currency, press "CUR" key to change, the symbol of counted/detected currency will be displayed in turn.
"EUR" means Euro
"USD" means US Dollar
"GBP" means Pound Sterling
…etc.

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3. Select accumulative counting

When you need accumulative counting, press the "ADD" key on the control panel and an indicator light on the left side will shine. Then the machine will count on the basic of the original number displayed on the initializing window. After the banknote counting is finished, the number displayed is the summation of several times' counting on the counting window. When the accumulative display reaches 9999+1, the number displayed on the display window will be resumed to 0.

4. Select batch counting

When you need a batch counting, press "BAT" key, then 100 is displayed on the initializing window and the machine enters batch counting mode, the batch counting number is 100.Each time when you press "BAT" key,100,50,20,10 and blank will be displayed in turn repeatedly. If the LED window displays nothing, the batch counting mode is disabled. If you press or hold "+1/+10" key, the batch number will be added with 1 or 10 automatically. The batch number can be selected in the range of 1-200.Put the banknotes on the hopper and the machine will count automatically. While reach the batch number, the machine will stop automatically. If you want to repeat the batch counting, you only need to get out the banknotes on the stacker, and the machine will automatically repeat the above operation.

5. Select counting speed

You can press "SPEED" key to select the counting speed. There are 3 kinds of speed respectively corresponds to low speed, middle speed, high speed.

⚠ Note: We do not recommend selecting high speed when using the Sort function because it may cause degradation of the performance.

Select detecting options

With several options for detecting counterfeit, the banknote counter can find out the counterfeit banknotes. Users can select the counterfeit detection option and adjust the sensitivity according to the requirement of the banknotes counting.

1. Setup detecting sensitivity parameter

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If a banknote of different width is mixed in a pile of banknotes, the machine will stop when finding out it, the buzzer will beep. The smallest width error (detection precision) that can be identified is 3mm, which can be adjusted to 6mm if necessary. The Banknote width detection precision is set to 3mm by the factory.

Press the "CUR" key and turn on the machine, then the item and value are displayed. Press "ADD" key or "CUR" to selected item. Press "+1" key to increase the value and press "BAT" key to decrease the value. All codes are displayed in the following:

Item	Default value	Meaning
-JF	-4-	Adjustment of fluorescence sensitivity
-Jd	-4-	Adjustment of width precision sensitivity
-JC	-2-	Adjustment of magnetic precision sensitivity
-JS	-4-	Adjustment of color sensors sensitivity (reserved)
-JI	-3-	Adjustment of infrared sensitivity
-JP	-4-	Adjustment of paper sensitivity

After all data has been correctly set, press "RESET" key to save the parameter.

2. Setting default parameter

Press "CLR" key and turn on the machine, then "dEF" is displayed on the counting window and "—H—" is displayed on the preset window. Next press "RESET" key to save the parameter and exit. These operations make the machine to resume the factory setting.

Troubleshooting

1. Self test error message display and solutions

The machine will automatically perform a system self-test after being turned on. If the following error message is displayed on preset display window, usually it is because the sensor is blocked by banknotes or dusts. Then use brush or soft cloth to clean the dusts on the sensor or remove the banknote, and then restart the machine.

Error	Fault position	solutions

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message display		
E00	Fluorescence sensor	Adjust the top cover to right position so as to avoid strong light source
E10	Banknote feeding sensor	Remove the banknote and clear away the dusts
E11	Banknote receiving sensor	Remove the banknote and clear away the dusts
E30	Left counting sensor	Same as above, or aim at the axes of the light beam
E31	Right counting sensor	Same as above
E50	Rotate speed sensor	Clean the code wheel and sensor, or replace the rubber-belt
E60-E68	Ext IR sensor	Remove the banknote and clear away the dust
E70-E78	Ext IR sensor	Remove the banknote and clear away the dust
E80	Internal memory fault	Resume to factory setting

2. Detective error message display and solutions

If the following error message is displayed on the preset display window during the course of counting, you can handle them as per the following solutions after the machine is stopped.

Error message display			Causes and solutions
Eh			Half piece or incomplete banknote, remove it, and press RESET to continue the counting.
EJ/EC			Some banknotes are connected or overlapped, put the banknotes on the banknote holder back to the banknote feeder to count again. If EJ is often displayed, you can finely adjust the vertical adjusting screw clockwise.
ES			Banknotes tilt. Press RESET to continue the counting.
Ed			Some banknote is nonconforming in size, remove it and press RESET to continue.
F-P	F-F	F-C	Counterfeit or suspicious banknote, remove it and press RESET to continue the counting. If false detection occurs frequently (regards real banknotes as counterfeit ones), you can adjust the sensitivity to a lower level.
F-1	F-2	F-3	
F-5	F-6	F-7	
F-8			
FUL			The number is more than about 220 pieces in the stacker Remove the banknotes and continue counting.

⚠ Note: The banknotes should be re-counted if one of the above errors has occurred.

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The position of the hopper adjusting screw has already been set to the best position in the factory. When unnecessary counting errors occur (i.e. Double notes/chain notes), it can be needed to adjust the hopper-adjusting-screw to optimize the banknote transport.

- When the notes can not be counted smoothly, increase the distance.
- When the machine stops and display the codes "Double notes" or "Chained notes", decrease the distance.
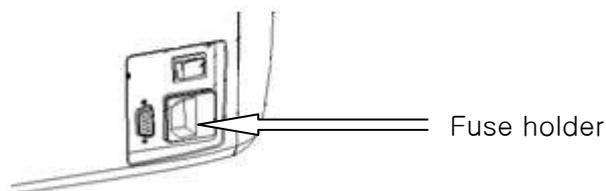
Turn the screw clockwise to increase the note thickness distance, turn the screw counter-clockwise to decrease the distance. The adjustment screw is very sensitive, make only minor adjustments.

the adjusting screw
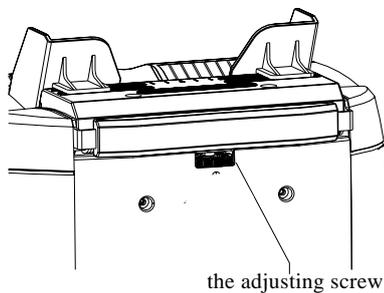
How to replace the fuse

The fuse can be replaced if it is burned-out, open the cover of fuse holder and insert a new one, and then recover it.

Fuse holder

Replace the Fuse

⚠ CAUTION: For continued protection against risk of fire, replace only with same type and rating of fuse.

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1. Daily maintenance

1.1   If the temperature is lower than 20℃,please turn on machine and wait for three minutes before counting.

1.2   The machine shall be operated at places with good ventilation and kept away from strong sunshine and strong magnetic field.

1.3   The power plug of the machine shall be inserted to electrical socket with safe grounding.

1.4   The power supply of the machine shall be within the scope of 100-240V.Otherwise it will affect the machine's normal operation.

1.5   Banknote twiddling gear, contra rotating wheel, and delivering wheel cannot be stained with any grease, otherwise it will slide and the counting will be inaccurate.

1.6   Dusts on ultraviolet LED,IR sensors, and magnetic sensors shall be thoroughly cleaned once a week at least. You may clean the machine by using the provided brush to remove any dust build-up on the exposed portions of the machine. You may also clean the sensors by using the provided paper to remove dust on them.

🛈 **NOTE: DO NOT USE ANY CHEMICALS TO CLEAN THIS MACHINE.**

2. Software Update

The software of the machine can be updated through multi-purpose interface by the provided downloading cable. There are 6 operational steps which are listed in the following.

2.1 Connect PC and the banknote counter with provided downloading cable through multi-purpose interface together.

2.2   Open the CC MutiTarget Program software on the PC.
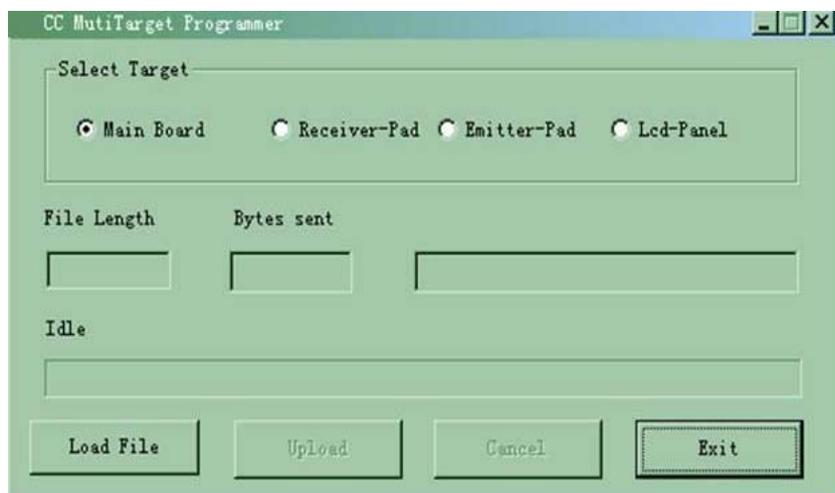
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2.3 Select one item from the four target boards .Click "Load File" button, then select the file you want to download and open the file. The length of the file will be displayed.
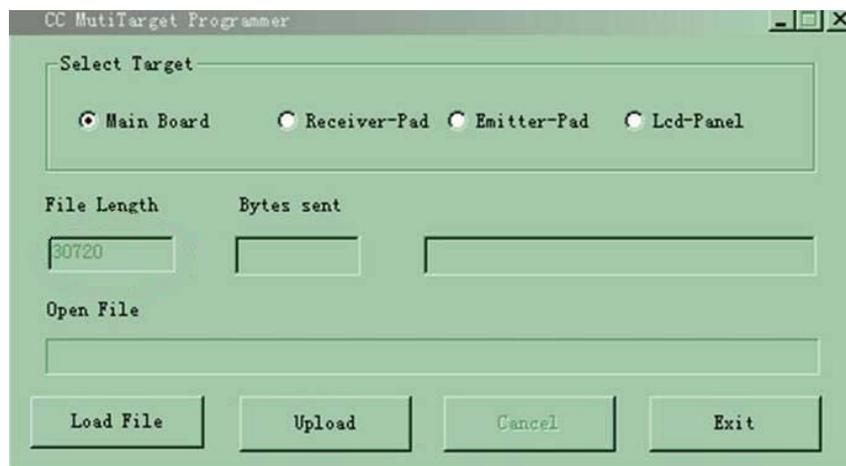
2.4 Press "RESET" key and turn on the machine. The machine will enter into downloading mode and "−dn" is displayed on the LED.

2.5 Click "Upload" button, and then connect COM1/COM2. If the connection is normal, it start to download the file until the file transmission is finished. The length of the downloaded file will be displayed. If the connection is abnormal, return to first step.
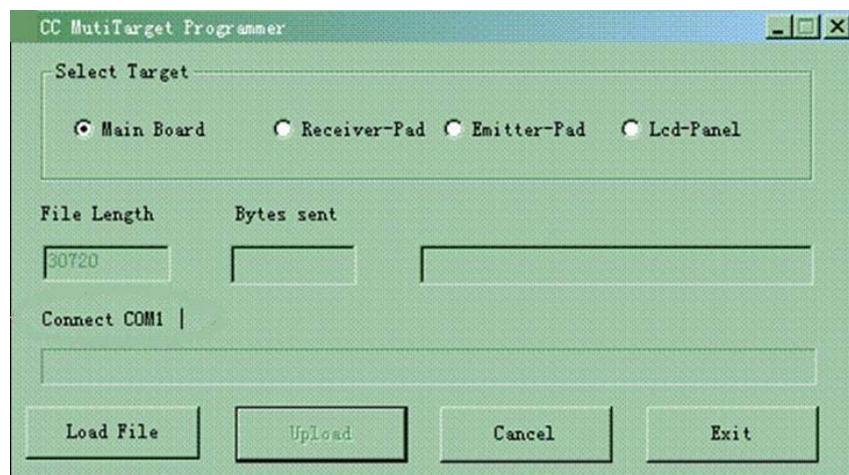
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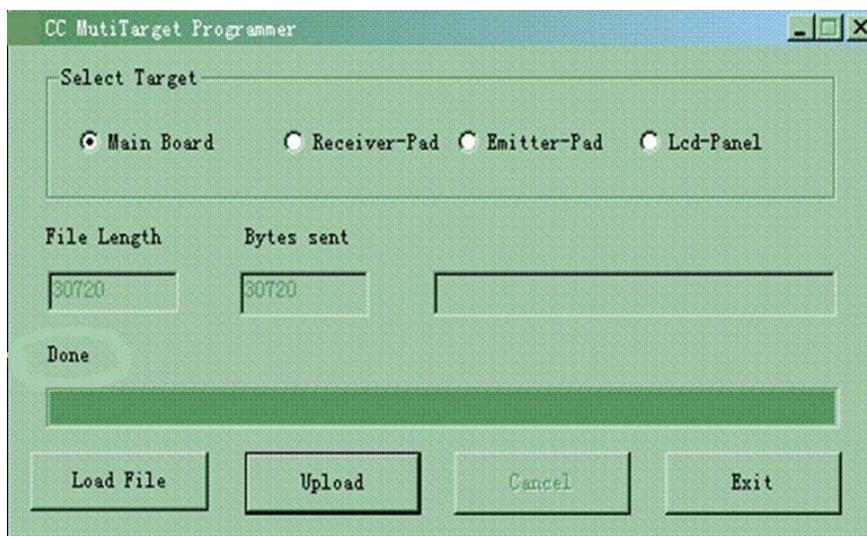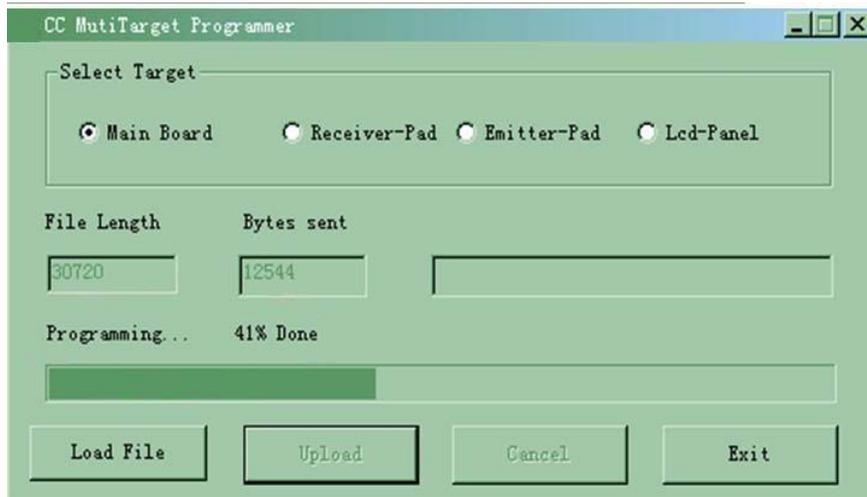
2.6   When the update job is finished, please restart the machine.

Specifications

Note Size Range:	50mm(Width)×110mm(Length) ~ 85mm(Width)×175mm(Length)
Hopper Capacity:	300 Notes
Stacker Capacity:	250 Notes
Counting Display:	4 Digital LED
Preset Display:	3 Digital LED
Power Supply:	AC 100V-240V /50-60Hz
Power Consumption:	60W
Temperature:	0 ~ 40℃
Humidity:	40% ~ 90%
Dimensions:	287(Length) ×243(Width)×248(High)mm
Weight:	6.5Kg
Counting Speed:	800/1200/1500 notes/min, selectable

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✧ If the machine has some faults that you can′t solve, please contact the Technical Support Dept of our company or our agent for services.

✧ Products subject to change without further notice.