CARNATION
CASH COUNTING SINCE 2004

Banknote Mixed Value Counter

User Manual   **CR1000**

CARNATION

Preface

Thank you for choosing the banknote mixed value counter. This high-performance, intelligent, counter and counterfeit detector uses industry-leading digital processing technology and is suitable for counting/detecting the value of many currencies including USD, CAD, MXN, EUR and GBP. And the counter may be customized to cater for more currencies. Scientifically designed, it is superior in all areas -- with a solid structure, improved performance, and enhanced counterfeit detection capabilities.

Before first use, please read this manual carefully to ensure you fully understand how to safely operate, and to avoid damage to the machine. Keep the manual in a safe place for reference and future use.

Purpose

The purpose of the banknote discriminator is threefold:

- To count banknotes of various denominations and currencies.

- To detect the value of a certain batch of banknotes.

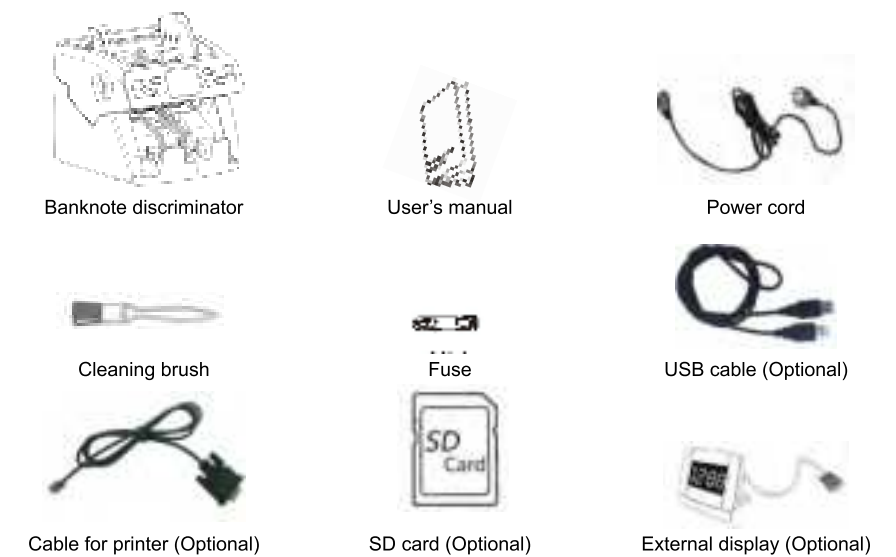- To detect counterfeit notes.

Content

1   Introduction

1.1 Important Notes and Safety Instructions

● The machine is exclusively for indoor use only. Do NOT use it outdoors.
● Maintenance must only be done by approved technicians. Do not attempt to disassemble the machine. If any problems occur, consult the troubleshooting guide. If the problem persists, please contact the authorized distributor for assistance.
● Do not expose the device to liquids, extreme humidity, or moisture. Avoid operating the device in environments with strong magnetic and electromagnetic fields (e.g. keep it away from magnets, other electrical appliances, etc.)
● Use the supplied power cord at a properly grounded outlet.

1.2 Unpacking

Check the machine for any damage from transit. Check that the machine is in good condition and that all the following accessories are available and undamaged:

Banknote discriminator   User's manual   Power cord

Cleaning brush   Fuse   USB cable (Optional)

Cable for printer (Optional)   SD card (Optional)   External display (Optional)
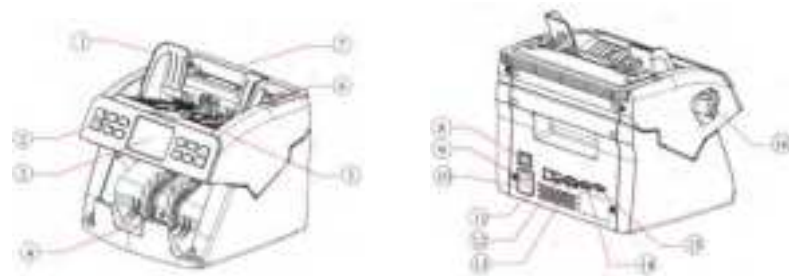
1.3 Figures Used

The screenshots used are examples and may differ from what is actually shown on the display.

2 Model Overview

2.1 At a Glance

1) Hopper Guide
2) Control Panel
3) 3.5" LCD Display
4) Banknote Stacker
5) Banknote Hopper
6) Feeding Gap Adjustment Screw
7) Handle
8) Power Switch

 9) Power Socket
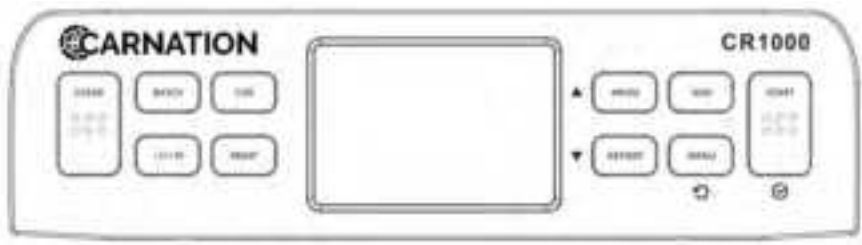10) Fuse Holder
11) Network Port (Not in Use)
12) Printer Port
13) DB9 Port for External Display
14) USB Port for Connection to PC
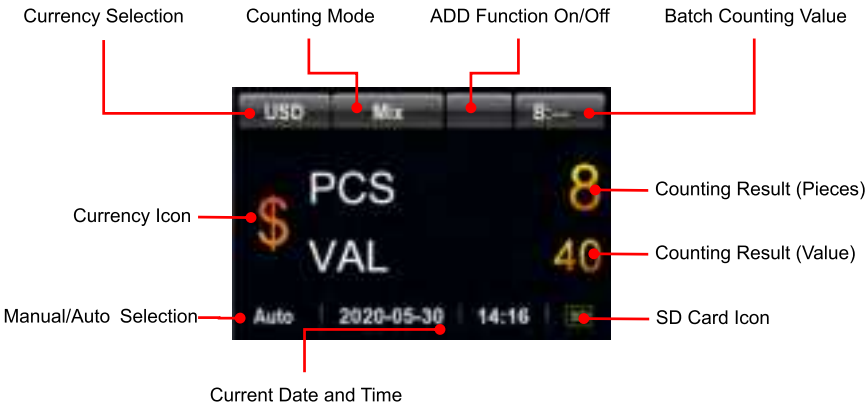15) SD Card Slot
16) Note Path Access Door

2.2 Control Panel Overview

Button	Description
CLEAR	Clears the number of counted banknotes. Turns the batch function off.
BATCH	Batch function on/off and sets batch number (100 - 50 - 20 - 10 - 5 - "---" - 100 ...). The counter stops automatically when the batch stop is reached.
+1/+10	Increases the batch number by either 1 (press to increase by 1) or 10 (press and hold).

CUR	Selection of desired currency.
PRINT	In Mix/Sort mode, sends count report to print.
MODE	Selection of the mode. Menu navigation (up).
REPORT	When pressed, displays details of the counting result. Press it again to switch to next page, if any. Menu navigation (down).
ADD	When active, adds counting results to existing counting results until cleared.
MENU	Press to enter the menu. Press to return to the previous screen or quit/leave the menu.
START	Press to manually start counting. Press to confirm and save a setting.

2.3 Main Screen

Currency Selection
Counting Mode
ADD Function On/Off
Batch Counting Value
Currency Icon
Counting Result (Pieces)
Counting Result (Value)
Manual/Auto Selection
SD Card Icon
Current Date and Time

2.4 Auto Recognition Mix Counting Screen

Auto recognize the first banknote.
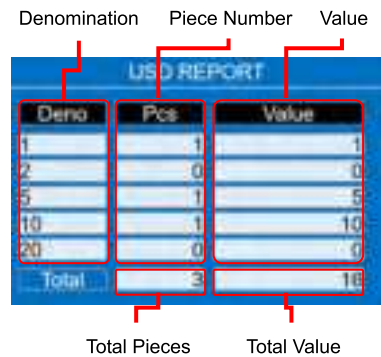*USD for US dollar, *CAD for Canadian dollar, etc.

2.5 Multi-currency Mix Counting Screen

"MULT" and "Mix" are shown on the display. The machine will count the mixed currencies. After counting, the total number and total value of each currency are shown on the display.

2.6 Counting Result Statistic Screen

Denomination   Piece Number   Value

Use **REPORT** key to turn to the next page if there are more denominations.

Total Pieces   Total Value

3   Operation

Place the machine on a stable, flat surface away from strong electromagnetic fields and away from direct sunlight. To ensure personal safety, only use grounded electric outlets. Plug the power cable into an electrical socket and secure all connections. If you purchased an external display, you may connect it to the DB9 port on the back of the machine.

Turn the power switch to the ON position. The machine will power up and will display the software version (as shown in Figure 1) and then perform a self-test. If the test is successful, the machine will enter the ready state, as shown in Figure 2. If an error message appears on the LCD display, please refer to the Error Messages section of the manual.

Software version
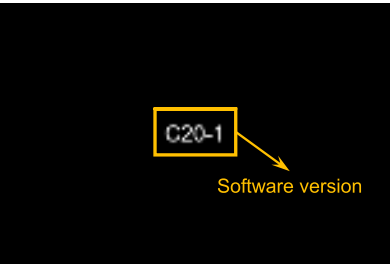

Figure 1   Figure 2

To avoid errors when counting banknotes:
1. Avoid counting wet, excessively dirty, or damaged notes.
2. Always check for foreign objects which could jam the note path or even damage the sensors (e.g. paper clips, rubber bands, clips, dust, etc.)
3. Remove folds or curls from the notes before placing them in the hopper.
4. Align all the corners and edges of the notes, as unevenness could cause errors.

Place the banknotes in order (as shown in Figure 3). Based on the size of the banknotes, adjust the left and right hopper guides to a suitable position. When ready, place the banknotes into the hopper, as shown in Figure 4. The machine will then start counting automatically (according to your setting in the menu).

Figure 3   Figure 4

When a counterfeit banknote is detected, the machine will stop immediately, and the buzzer will sound. The top note in the stacker (as shown in Figure 5) will be a counterfeit or suspicious note which

should be checked. Remove the problematic banknote and press the **START** key to continue counting.

Counterfeit or suspicious note

Figure 5

When an error occurs, or if the machine automatically stops, please re-count the banknotes.

3.1 Currency Selection

Press the **CUR** button to select currency. Continue pressing **CUR** to browse through the available currencies. The selected currency is shown on the top left of the display.

3.2 Counting Modes

The machine can count both sorted and mixed banknotes. Use the **MODE** button to select your desired mode.
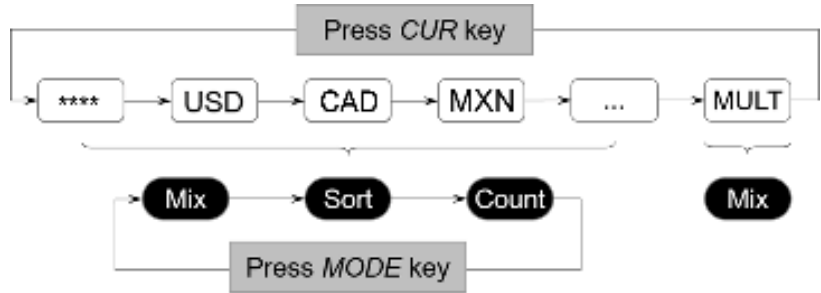

Figure 6

- **MIX MODE**

"Mix" is shown on the display. In MIX mode, the machine will count all notes of the same currency. After counting, the total value and total number of genuine notes are shown on the display.

- **SORT MODE**

"Sort" is shown on the display. In SORT mode, the machine will only count notes of the same denomination. The first genuine note determines which notes will be counted and which will be rejected.

- **FREE-COUNT MODE**

"Count" mode is used when you want to count different type of banknotes or banknote-like papers. When finished, the total number is shown on the display. In this mode, counterfeit detection is OFF.

3.3 Batch Counting

A batch is where the machine is set to count a specific number of notes. To set the required number to be counted, press the **BATCH** button and "B:100" will display. To change this number, press the **BAT** button to toggle between the standard settings: 100, 50, 20, 10 and deactivation. To adjust this further, press or press and hold the **+1/+10** button to increase the batch number by 1 or 10, respectively.

After setting the batch number, place a stack of banknotes on the hopper and the machine will start counting. When the specified number is reached, the machine will stop automatically. When the banknotes are removed from the stacker, the counter will begin counting the next batch.

3.4 ADD Function

When you need cumulative counting, press the **ADD** button and "ADD" will show on the display. Counting will begin and continue until either the cumulative quantity of banknotes counted reaches 100,000 or the total value of all notes reaches 100,000,000. The number will then reset to 0.

3.5 Count Report

After counting has finished in MIX mode, both the total value and the total number of genuine banknotes that have been counted are shown on the display. To view a more detailed counting result, press the **REPORT** button. To turn page in count report, press the **REPORT** button again.

3.6 Printing

To print a more detailed counting result (of the banknote quantity, and value per denomination), press and hold the **PRINT** button for 2 seconds.

4   Setting Up

To set up the counter, when on the main screen, press the **MENU** key to enter User Menu mode.
In User Menu interface, the **MODE** and **REPORT** keys become the Up and Down navigation keys.
MODE: Up
REPORT: Down
Use the navigation keys to highlight the desired item.
Use the **START** key to confirm.
Use the **MENU** key to exit from the User Menu.

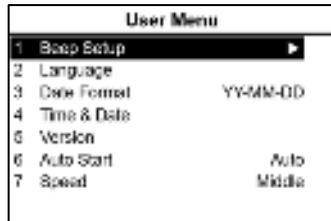### 4.1 Setting Beep Function
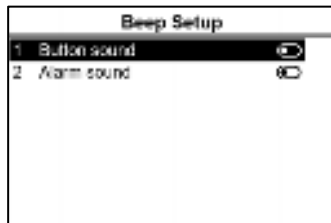
To change beep settings:

Figure 7

Figure 8

1.Highlight the "1 Beep Setup" option.
2.Press **START** key to confirm.
3.Highlight the desired item.
4.Press **CUR** or **PRINT** key to change it between on and off.
5.Press **MENU** key to exit.

4.2 Setting Language
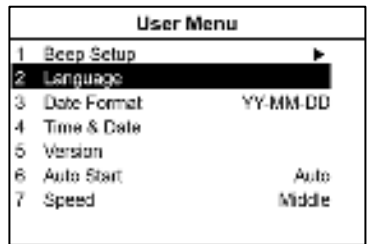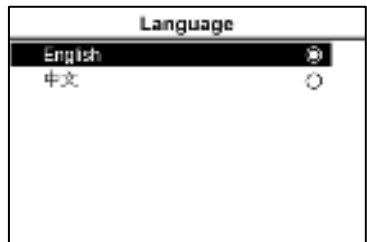
To change language settings:

Figure 9

Figure 10

1. Highlight the "2 Language" option.
2. Press **START** key to confirm.
3. Highlight the desired item.
4. Press **START** key to confirm.
5. Press **MENU** key to exit.

4.3 Changing Date Format
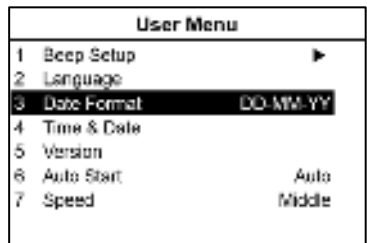
To change date format settings:

Figure 11

1. Highlight the "3 Date Format" option.
2. Press **CUR** or **PRINT** key to change date format.
3. Press **MENU** key to exit.

4.4 Setting Date and Time
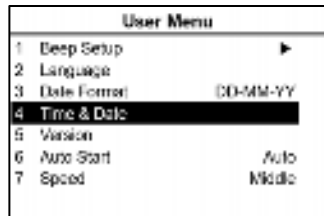
To set date and time:

Figure 12

Figure 13

1. Highlight the "4 Time & Date" option.
2. Press **START** key to confirm.
3. Use **MODE** or **REPORT** key to select the item needed to be changed.
4. Use **CUR** or **PRINT** key to change the value.
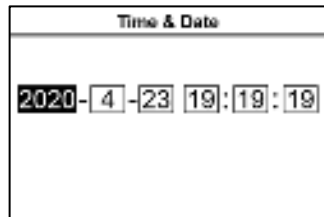5. Press **START** key to confirm.
6. Press **MENU** key to exit.

4.5 Checking Version Information of Machine

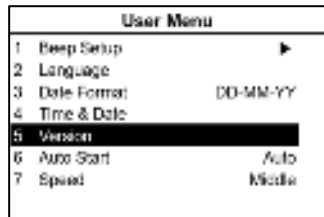To view version information:

Figure 14

Figure 15

1. Highlight the "5 Version" option.
2. Press **START** key to confirm.
3. The version information will show on the screen.
4. Use **REPORT** key to turn to the next page.
5. Press **MENU** key to exit.

4.6 Setting Auto Counting Function

To choose the counting start mode when banknotes are placed in the hopper:
Manual: Manually start (Press **START** key to start counting).
Auto: Automatically start.

Figure 16

1. Highlight the "6 Auto Start" option.
2. Press **CUR** or **PRINT** key to change it between **Auto** and *Manual*.
3. Press **MENU** key to exit.

4.7 Selecting Counting Speed

To change the counting speed:
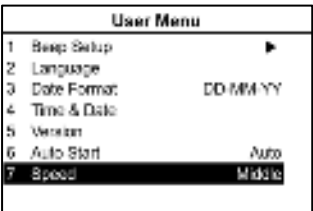
Figure 17

1. Highlight the "7 Speed" option.
2. Press **CUR** or **PRINT** key to change the counting speed.
3. Press **MENU** key to exit.
Speed rates:
Low: 1000 notes/minute
Middle: 1200 notes/minute
High: 1500 notes/minute

Some speed modes may not be optional for some counting modes, see the table below for details.

Speed \ Mode	High	Middle	Low
Count	√	√	√
Mix/Sort	×	√	√
MULT-Mix	×	×	√

5 Maintenance

5.1 Note Path Access

Figure 18

5.2 How to Close Note Path

Figure 19

5.3 Cleaning the Device

You can prolong the life of your device by keeping it clean.

WARNING: To avoid risk of electric shock, always disconnect the main power cable before cleaning the machine.

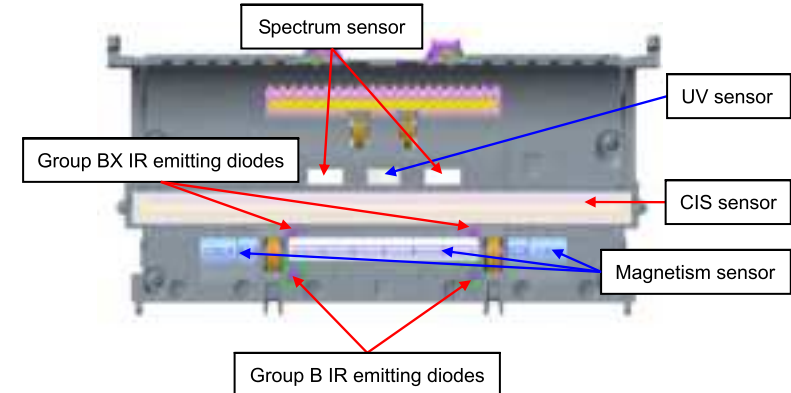*How to clean the Note Path of the machine:*

Figure 20

1. Open the note path door.
2. Gently wipe or dust the note path with a small, soft brush or a dry, soft, lint-free cloth.
3. If stains remain, moisten a soft, lint-free cloth with water or a 50/50 mixture of isopropyl alcohol and water that does not contain impurities.
4. Wring out as much excess liquid as you can.
5. Wipe the note path and the sensor surfaces again. Ensure no liquid gets inside the machine.

Note: Avoid spraying cleaner directly onto the machine and be sure to dry the note path before closing it.

How to Clean the Counter Case

When cleaning the machine, it is important that no liquid gets inside.
1. Prepare a 5:1 mixture of water to mild kitchen detergent (5 parts water to 1 part detergent). The detergent must not contain abrasive powder, strong acid, nor alkaline chemicals.
2. Soak a sponge in the solution and then squeeze all excess liquid from the sponge.
3. Wipe the cover with the sponge, using a circular motion, while taking care not to let any excess liquid drip inside the machine.
4. Wipe the surface to remove any excess detergent.
5. Rinse the sponge with clean, running water.
6. Wipe the cover with a clean sponge to remove any remaining detergent.
7. Wipe the surface again with a dry, soft, lint-free cloth.
8. Wait for the surface to dry completely and then remove any loose fibers.

5.4 Replacing the Fuse

WARNING: To avoid risk of electric shock, always disconnect the main power cable before removing the fuse holder.

Figure 21

To change the fuse:

1. Disconnect the machine from the power source.
2. Take the fuse holder out.
3. Replace the fuse.
4. Plug the fuse holder back in.

5.5 How to Adjust the Feeding Gap

The feeding gap adjusting screw on the top cover is factory set. However, you may need to adjust the feeding gap as follows if the following problems occur during counting/sorting:

Frequent jams or banknotes pass the feeder with difficulty: Turn the adjusting screw anticlockwise to make the feeding gap wider.

Frequent "double notes" or "chained notes" error message: Turn the adjusting screw clockwise to narrow the feeding gap.

<u>Note</u>: The adjustment screw is very sensitive. Only make minor adjustments.
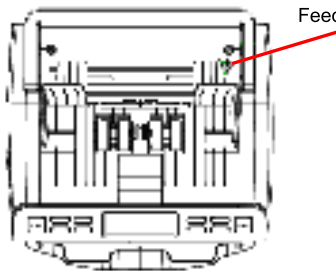

Figure 22

Feeding gap adjustment screw

Figure 23

5.6 Software Update

The device can be updated via SD card, USB device, or USB connection. Please contact your dealer for further instructions.

6 Technical Specifications

Counterfeit Detection:	IR, MG, MT, Image, Thickness, UV, Spectrum
Counting Speed:	1,000/1200/1500 notes/min
Hopper Capacity	300 notes
Stacker Capacity:	200 notes
Working Temperature:	32°F~104°F/ 0~40℃
Humidity:	40~90%
Storage Temperature:	−13°F~131°F / -25~55℃
Power Supply:	AC100-240V, 50/60Hz
Power Consumption:	≤60W
Dimensions:	10.35"(L)*10.55"(W)*10.04"(H) / 263(L)*268(W)*255(H)mm
Weight:	14.77lb / 6.7kg
External Interface:	DB9 port, USB port, Printer port, SD card slot

✧ **Products subject to change without further notice.**

Appendix: Error Messages

Figure 24

Self-Test Error Messages

The discriminator automatically performs a self-test after it powers on. If an error message shows on the display window, usually it is because the sensor is blocked by a banknote or dust. Please use a brush or a piece of soft cloth to clean the dust on the sensor or remove the banknote. Then, restart the machine.

Detection Error Messages

If an error message shows on the display window during the process of counting, you can handle it according to the solution below the error message (shown as in Figure 24) after the machine is stopped.

Specially, for some errors, you may find a solution in the chart below:

Error message	Solutions
Slant notes	1. Tilted banknotes: Ensure the banknotes are placed neatly and are centered on the hopper. 2. Remove the slant note from the stacker and press the **START** key to continue the counting. 3. Use the hopper guides to center the banknote when counting a large stack of banknotes.
Double notes	1. Some banknotes are attached to each other or overlapping. Please re-count the banknotes.
Chained notes	2. If error persists, please turn the adjusting screw clockwise to make the feeding gap narrower.

Sensitivity Parameters Setting Error

You may encounter the following problems during counting/sorting:

- The machine does not recognize the notes properly.
- The machine frequently recognizes good notes as unfit notes.

If either of these errors occur, please contact your technician/dealer to have the machine's sensitivity parameters adjusted.

Note: In case of any technical problem that cannot be solved by the above, please contact your supplier.