![AccuBANKER® logo]

User Guide

AB7100

Enterprise Mixed Bill Value Counter

Thank you for trusting *AccuBANKER* with your cash handling needs.

In order to optimize the performance of your equipment, we encourage you to thoroughly read this user guide prior to use.

AccuBANKER®

Table of Contents

Introduction

The AB7100 machine is the perfect solution for a fast, accurate, and reliable banknote counting process. This machine is designed to meet the most demanding applications in today's financial market.

Its versatility allows the user to process cash using 4 different operating modes depending on his need:

MIX-SORT-COUNT-LOCAL

Among the most significant features this model offers are:

1. Reliable, Fast, Versatile, and Easy operation
2. Suitable to count mixed denominations bills to obtain a final total amount of money
3. Easy software update procedure
4. Auxiliary external display
5. USB and Printer interface connection

This User Guide will allow you to get familiar with all the details related to the unit's operation. We recommend reading this guide thoroughly before operating the unit and keeping it for future reference.

Safety Instructions

Warning

	Do not use this product in areas where it may be exposed to water or other liquids.
	Unplug this product from the electric outlet before cleaning. Do not use liquid or aerosol cleaners. To clean, use a damp cloth.
	To reduce the risk of electric shock, do not disassemble this product. Take it to qualified service personnel when service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the appliance is subsequently used.
	Only use the cable provided with the unit. The use of other cables may result in electric shock, fire, or cause serious damage to the unit.
	Do not operate the unit in areas with high temperature or high humidity since it may prevent it from working correctly.

Caution

When unplugging the power cord, do not pull it by the cord, but rather grip the plug to pull it out. Not following these instructions may result in electric shock, fire, or damage to the unit.

Do not use the unit if the power cord is damaged or if the plug socket contact is loose. Not following these instructions may result in electric shock, fire, or other hazards.

Do not place heavy objects over the cord and do not bend it excessively since it could get damaged. Not following these instructions may result in electric shock, fire, or other hazards.

When not using the unit for a long time, remove the power plug from the electric outlet.

Safety Instructions (cont.)

- Read and understand all of the safety instructions.
- Follow all warnings and instructions marked on the unit.
- This product is meant to be operated in an indoor environment with proper ventilation.
- Do not place near direct sunlight, heat sources, or air conditioners.
- This product should only be operated with the power cord supplied and the type of power source indicated in this user guide. If you are not sure of the type of power supply in your location, consult your vendor or local power company.
- To avoid the risk of fire or electric shock, never push objects into the unit through the case slots or openings, since they may touch dangerous voltage points or shortcut parts. Do not disassemble the unit.
- Never spill liquids of any kind on the product.
- Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    - When the power supply cord or plug is damaged or frayed*
    - If liquid has been spilled into the unit, or it has been exposed to rain or water*
    - If the product has been dropped or the case has been damaged*
    - If the product shows a noticeable change in performance

    *Not covered under warranty

NOTE: *Do not remove the "ground" prong from the power cord. It is a safety feature meant to protect the user from harm and the equipment from damage.*

If the unit does not operate normally while following the instructions, adjust only those controls covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.

1. Installation

A) **Unpacking the unit**

   After unpacking the unit, store the box and the packing material for future shipping. Failing to ship the unit in its original unit box and Styrofoam will void the unit's warranty.

B) **Installation**

   Select an appropriate workspace that is clean, flat, and leveled. The equipment should never be placed near strong sources of light, heat sources, or air conditioners. Please do not install the equipment where its weight cannot be supported.
   Voltage operating range: 100 – 240VAC 60/50 Hz
   Plug the power cable to the back of the unit and into the wall power outlet.
   Turn the unit on and verify it is functioning. In case of any functioning problem, immediately contact your provider.
   Note: When replacing fuses, make sure to use the same type and rating.

1. Installation (cont.)

C) **Bill Selection / Placement**
1) Avoid counting wet, excessively dirty, folded, or damaged bills.
2) Check for foreign objects mixed up with the bills such as paper clips, rubber bands, pieces of paper, etc.

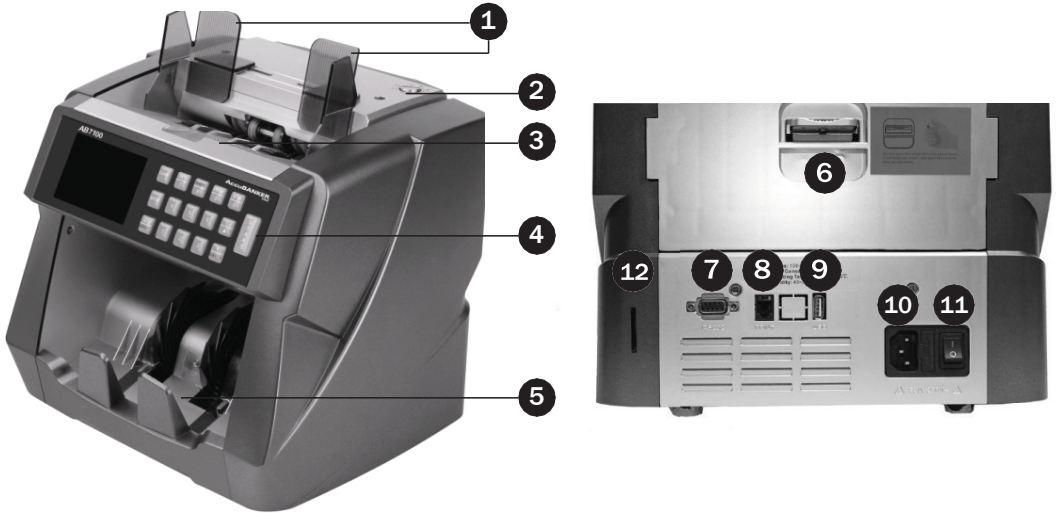3) If counting new bills, fan them lightly since they often stick together.

4) Position the bills in an orderly manner on the hopper tray to ensure an error-free operation.
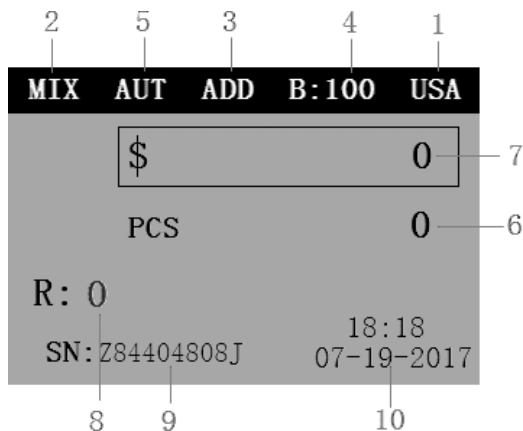
2. Equipment Overview

2.1 Part Description

1. **Bill Guiders** - Align the bills to be counted
2. **Thickness Adjustment knob** - Adjust the bills' feeding gap
3. **Hopper Tray** - Bills are placed here to be counted
4. **Display / Control Panel** - Controls operation / Shows counting results
5. **Stacker Tray** - Counted bills are collected here
6. **Back compartment lock** - Open back compartment to access inside
7. **Serial 1 port** - Auxiliary Display connection port
8. **RJ11-4 port** - Printer connection or PC connection
9. **USB port** - Updates installation / Technical Service
10. **Power Jack** - For connecting the power cable
11. **On / Off switch** - For switching the unit ON & OFF
12. **SD card port** - Updates installation / Technical Service

2. Equipment Overview (cont.)

2.2 Display Description

```
   2      5      3       4       1
 MIX   AUT   ADD   B:100   USA
       ┌──────────────────────┐
       │ $                  0 │── 7
       └──────────────────────┘
         PCS                0 ──6

  R: 0
                        18:18
     SN:Z84404808J   07-19-2017
       8     9             10
```
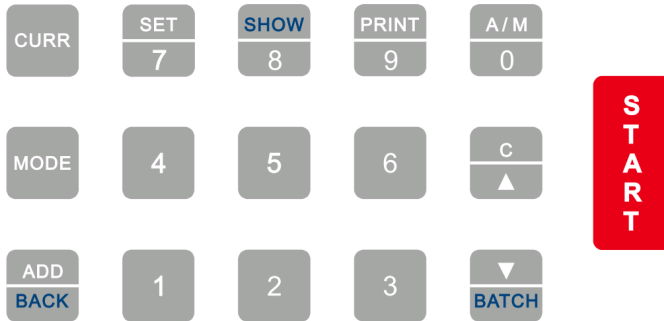
1. Currency
2. Operation Mode
3. ADD function
4. Batch quantity
5. Automatic / Manual mode

6. Number of bills counted (pcs)
7. Total amount counted
8. Quantity of suspicious notes
9. Serial Number of the bills
10. Date & Time

2. Equipment Overview (cont.)

2.3 Control Panel Description

- **START:** Start counting / Confirm selection / Reset

- **CURR:** Currency Selection (**only for Multi-currency version**).
  Press CURR key to show the Currency options available, then use the arrow keys (up & down) to choose the required currency. Press START to validate the selection.

- **SET:** Access to the User menu.
  Press SET to enter into the User Menu, use the arrow keys (up & down) choose the desired option, and then press START to enter into the selected sub-menu.
  Use the BACK key to return to the previous screen or go out from the menu.
  Note: All the SET options will be described in details in the section USER MENU DESCRIPTION

2. Equipment Overview (cont.)

2.3 Control Panel Description (cont.)

- **SHOW:** Show COUNTING REPORT & SERIAL # REPORT.
  Press SHOW one time to access the "Counting report" then press it again to show the "Serial Number report".
  **Note: If the Serial Number report consists of several screens, press the "arrow" keys to scroll it up and down.
  **Note: BATCH function must be disabled to show the report's details.

- **PRINT**: Print Reports
  Press Print to print the current report shown on the screen.

- **A/M**: Automatic or Manual Mode selection.
  Used to activate or deactivate the Automatic mode, where the machine begins the counting automatically when bills are placed on the hopper tray.

- **C**: Clear the counting information / UP arrow
  Press it to delete the counting info from the screen.

- **BATCH:** Batch mode selection / DOWN arrow
  Use the keypad to enter the desire batch quantity, 100 pcs is shown as default.

- **ADD/BACK:** Enable the Addition mode during counting
  Used also to move back (previous screen) while navigating into the User Menu.

# 2. Equipment Overview (cont.)

2.3 Control Panel Description (cont.)

- **MODE**: Operating mode selection.
  Press it sequentially to select the desired operating mode:

  - **Mix**: Used to count mixed denominations of the currency/currencies programmed. The result is the total amount of money as well as the number of bills counted.

  - **Count**: Used to count currencies not programmed, or in case the fitness condition of the bills is poor and is not well recognized in MIX mode. In this mode, the unit works as a conventional bill counter. The result is the number of bills counted. Normally used to count USD when their fitness condition is poor and are rejected in MIX mode. **ALL THE DETECTION FUNCTIONS ARE DISABLED IN THIS MODE.**

  - **Local:** Very similar to COUNT mode but normally used for the local currency where the unit is located. Allows the user to customize the security features for the local currency.

  - **Sort:** In this mode, the unit memorizes the first denomination scanned, then compares the rest of the bills with this denomination. When a different denomination is found, the unit will stop counting to allow the user to remove the bill. As a result, all bills will belong to the same denomination.

3. User Menu Overview

3.1 User Menu Description

User Menu Navigation Keys

- Press SET to show the User Menu options in the display.

- Press the Arrow keys to select any specific topic.

- Press START to enter into the selected topic.

- Press BACK to exit the Menu or go back to the previous screen while navigating the Menu.
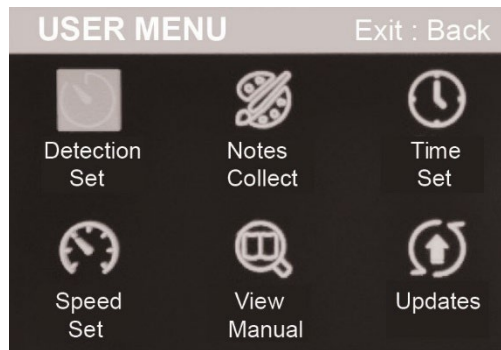
3. User Menu Overview (cont.)

3.2 Detection Set

Allows the user to adjust the sensitivity of the detection functions as well as other parameters.

Detection Set	Exit: Back
1: MG Adjustment	
2: DD Adjustment	
3: DB Adjustment	
4: UV Adjsutment	
5: IR Adjsutment	
6: Slope Adjustment	

Detection Set	Exit: Back
7: Serial Switch	
8: UV Alarm	
9: Total Count History	
10: Connection	

1) MG Adjustment
Allows the user to adjust the sensitivity of the MG detection function.
MG-0 is OFF / MG-9 is Highest / MG-5 default

2)   DD Adjustment (Width size)
Allows the user to adjust the sensitivity of the DD detection function.
DD-0 is OFF / DD-9 is Highest / DD-5 default

3) DB Adjustment (Double bill)
Allows the user to adjust the sensitivity of the DB detection function.
DB-0 is OFF / DB-9 is Highest / DB-5 default

4) UV Adjustment
Allows the user to adjust the sensitivity of the UV detection function.
UV-0 is OFF / UV-9 is Highest / UV-5 default

3. User Menu Overview (cont.)

3.2 Detection Set (cont.)

5) IR Adjustment
Allows the user to adjust the sensitivity of the IR detection function.
IR-0 is OFF / IR-9 is Highest / IR-5 default

6) SLOPE Adjustment
Allows the user to adjust the sensitivity of the sloped bills during the operation.
0 is OFF / 9 is Highest / 5 default

7) Serial switch (Serial # reading Enable or Disable)
Press the numeric key "1" to Enable the serial # reading or "0" to Disable it.

8) UV Adjustment (fine tuning-UN)
Allows the user to fine-tune the sensitivity of the UV detection function.
0 is OFF / 9 is Highest / 5 default

9) Total Count History
Press START to see the total quantity of bills counted by the machine in its entire lifetime.

10) Connection
Press START to set up the connection either to a PRINTER to print a receipt or to a PC to export the data to the ABCashroom Pro software.

3. User Menu Overview (cont.)

3.3 Notes Collect (Reserved for Technical Service)

Used to collect banknote information for updates. Please contact AccuBANKER if you require the details of this procedure.

3.4 Time Set

Allows the user to select the style of the Date and to set up a date and time.
Use the numeric keypad (1-9) and press START to confirm and finalize the procedure and go back to the main screen.

Time Set	Exit:BACK	Time style set	Exit:BACK	Time set	Exit:BACK
1:Time style		1:YY-MM-DD			
2:Day Time		2:MM-DD-YY			
		3:DD-MM-YY		2017 -07-19 20:00	

3.5 Speed Selection

Allows the user to select the desired speed among 800 bpm, 1000 bpm, or 1200 bpm (only for COUNT mode). Select the desired speed with the arrow keys then press START. MIX mode always works at 800 bpm.

Speed set	Exit:BACK
1:800	
2:1000	
3:1200	
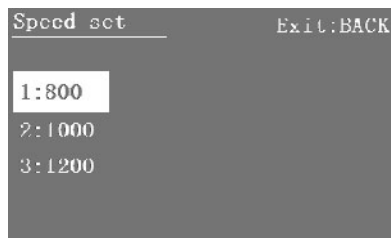
3. User Menu Overview (cont.)

3.6 View Manual

Allows the user to look for valuable information about the unit's operation as well as any error code message.

3.7 Updates (Reserved for Technical Service)

A procedure carried out to install the updates into the machine. Please contact AccuBANKER if you require the details of this procedure.

4. Operation

4.1 Counting Operation

- Turn on the equipment by pressing the power switch.
- The unit will immediately proceed with a self-check routine to confirm the proper functioning of its main components. If any error message is reported, go to the Error Messages section of this guide to identify its cause.
- Select the required Currency (for multi-currency models) as well as the operating mode (MIX-SORT-COUNT-LOCAL)
- Set up other optional functions such as SPEED, BATCH, etc.
- Place the bills in an orderly manner on the hopper tray and the equipment will start counting automatically.

NOTE: If the unit is in MANUAL mode, press START to begin counting.

4.2 Miscounting errors

If there are continuous counting errors proceed to:
- Make sure the bills are positioned neatly on the hopper tray.
- Verify that the counting sensors are not affected by particles of dust or some other nature.
- Verify the bill thickness adjustment mechanism (feeding gap) in case it needs to be re-adjusted for improving the unit performance.
- If MG, UV, or DD error messages are reported frequently, proceed to verify the sensitivity of the function and consider reducing them in case the current sensitivity value is too high.

4. Operation (cont.)

4.3 Thickness Knob Adjustment (Feeding Gap)

Proceed with this calibration when the bills are not fed smoothly through the machine or several error messages are occurring too often like DOUBLE NOTES, CHAIN, or miscounting errors.

Other reasons that might require readjusting the feeding gap are:
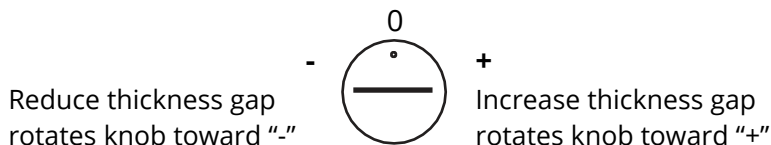- The counting of new or mint condition bills
- The counting of poor or bad fitness condition bills
- Polymer bills and Paper-made bills counted together

Having the correct feeding gap will ensure a smooth counting as well as a trouble-free unit's operation.

Trial and error attempts are recommended before you make the final adjustment.

NOTE: For new bills, it is recommended to leave the gap narrow. For used and worn bills, it is recommended to widen the gap.

a. For new (thinner) bills, as well as Polymer notes, adjust toward "-" to reduce the gap.
b. For used (thicker) bills, adjust toward "+" to increase the gap.
c. Small adjustments towards the "+" direction work best.

0

\- Reduce thickness gap rotates knob toward "-"   \+ Increase thickness gap rotates knob toward "+"

4. Operation (cont.)

4.4 Removing jammed notes

In case a bill jams inside the transporting mechanism, the unit will notify the user showing the message "REMOVE THE BILL JAMMED AND/OR CLOSE BACK DRAWER".

a. Proceed to open the back compartment by pushing down the lock lever, located at the back, at the same time you pull it toward you. The instructions label shows the details of this procedure.
b. If you notice you can reach the bill easily using your fingers, then proceed to remove it carefully. But if you notice it is difficult to reach or it is stuck with the transporting rollers, then proceed to turn the unit OFF before proceeding to remove it.
c. Do not use any tool or metallic instrument to remove the bill since it might damage other unit's components accidentally.
d. Make sure to remove any remaining debris in case the bill is broken.
e. Close the compartment properly after removing the bill.

a.	b.

5. Unit Maintenance

5.1 Periodic Cleaning Routines

Following these periodic cleaning routines will help keep the unit in the optimum condition for ensuring a trouble-free operation, as well as to extend the unit's lifespan.

Daily routine: Perform the following steps on a daily basis:
a. Turn Off the unit when not in use.
b. With a clean dry cloth or a brush, remove the dust deposited on the hopper and the stacker area.

Weekly routine: Perform the following steps on a weekly basis:
a. Turn off the unit and unplug its power cord.
b. Open the back cover carefully.
c. Use an air duster can and a brush to carefully remove the dust from the bill passage areas.
d. Inspect the CIS sensors, in case they are stained with ink, and use a cloth soaked in alcohol to clean the CIS sensor's surface.

Note: Follow the same procedure given in section "4.4 Removing jammed notes" to gain access to the CIS sensors and the transporting mechanism.

5. Unit Maintenance (cont.)

5.2 CIS Calibration Procedure

Proceed with the CIS calibration procedure when the machine is rejecting many bills with NOT RECOGNIZED error message. It is highly recommended to clean the machine first to make sure the CIS sensors are cleaned. Also, after installing any new firmware update it is recommended to calibrate the CIS sensors.

a. Get ready the calibration plastic card included with the machine.
b. Press **BATCH -1-2-3-6 START** to access the calibration menu. Then press the #1 key to select "Adjust CIS".
c. Open the back cover and place the calibration card holding it from the top rollers.
d. Close the back cover then press START to begin calibration process.
e. Wait until the machine shows the message "**CIS Check – OK**".
f. Then proceed to press the #2 key "Adjust Count" then press START
g. Wait for the message "**IR Check – OK**".
h. Press BACK to leave the calibration menu then proceed to remove the calibration card inside the machine.

NOTE: For a video reference of this procedure access our website support page **www.accubanker.com/pages/support** then select the AB7100 model.

BATCH 1-2-3-6 START

Debug Interface	Exit: Back
1: Adjust CIS	Ok
2: Adjust Count	Ok
3: Adjust UV	Ok
4: MG test	Ok
5: UV test	Ok
6: Speed test	Ok
7: CIS test	Ok
8: SD test	Ok

6. Export Data to the ABCashroom Pro

AccuBANKER has developed the ABCashroom Pro application to provide users the ability to export data that is being captured during the counting process. The software is available for sale on the AccuBANKER website, and a limited time free trial is available upon request.

To connect the AB7100 to the PC, use the cable USB – DB9 and connect it to the respective ports (shown below). This will allow for the ABCashroom Pro to establish a connection with the AB7100 to start capturing the data of the different counts.

Please visit our website to learn more about the ABCashroom Pro and all the features it has to offer.

PC connection port
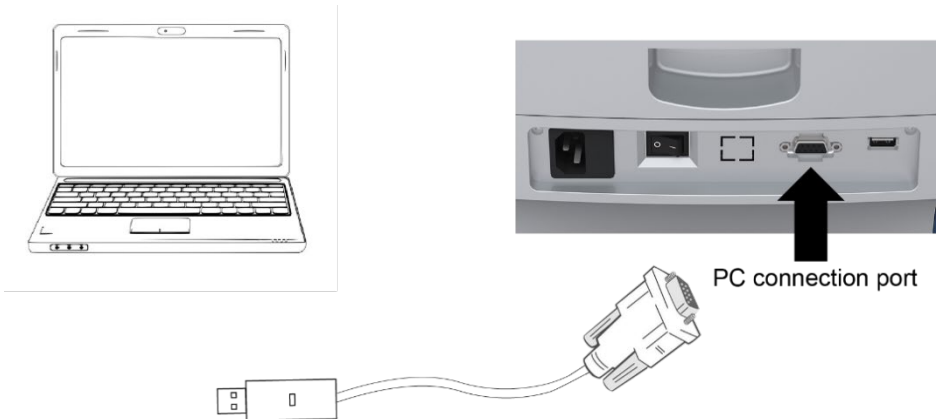
7. Warning and Error Messages

The unit will notify the user if an error is detected during the booting up procedure or in case any abnormal incident occurs during the operation. Proceed as the table indicates for each error message.

ERROR	CAUSE	SOLUTION
UV Error	Suspicious UV feature	- Remove the suspicious bill - Consider reducing UV sensitivity
MG Error	Suspicious MG feature	- Remove the suspicious bill - Consider reducing MG sensitivity
Chain Note	Two or more bills passed together (partially overlap)	- Adjust thickness adjustment knob - Verify the bill's fitness quality
Double Note	Two or more bills passed together (one on top other)	- Fan the bills - Adjust thickness adjustment knob - Consider reducing IR sensitivity
IR Error	Suspicious IR feature	- Verify the specific bill - Consider reducing IR sensitivity
Half Error	Check for a mutilated bill	- Remove the specific bill
Slant	The bill was fed tilt and the angle is higher than the tolerance	- Repeat the count or readjust SLANT tolerance
Image Error	Suspicious note by CIS Image detection (stained, crimped, etc.)	- Try to pass it again - If persist verify it manually

7. Warning and Error Messages (cont.)

ERROR	CAUSE	SOLUTION
Denomination Different	In SORT mode a different denomination was detected	- Set it aside
Lower Right Counting Sensor	Problem with the sensor	- Clean the sensor - Get in contact with tech support
Upper Right Counting Sensor	Problem with the sensor	- Clean the sensor - Get in contact with tech support
Lower Left Counting Sensor	Problem with the sensor	- Clean the sensor - Get in contact with tech support
Upper Left Counting Sensor	Problem with the sensor	- Clean the sensor - Get in contact with tech support
Banknote Receiving Sensor	Stacker sensor dirty or damaged	- Clean the sensor - Get in contact with tech support
Rotate Speed Sensor	Problem with the sensor	- Get in contact with tech support
Banknote Feeding Sensor	Hopper sensor dirty or damaged	- Clean the sensor - Get contact with tech support
Left or Right UV Sensor	Problem with the sensor	- Get contact with tech support
CIS Sensor	Problem with the sensor	- Get contact with tech support
Back Drawer Open	Open back door or bill jammed inside	- Verify there is no bill jammed - Close the back compartment
Close the Back Compartment	Bill jammed inside the unit	- Verify there is no bill jammed - Close the back compartment - Press START to clean the error

8. Specifications

Temperature	32° - 104°F (0° - 40°C)
Humidity	25% - 80%
Display	LCD
Counting Speed (new bills)	800 bills/minute 1,000 bills/minute 1,200 bills/minute
Feeding System	Roller Friction System
Feeding Type	Front-loading
Hopper Capacity	400 bills (new bills)
Stacker Capacity	200 bills (new bills)
Power Source (INPUT)	100 - 240 VAC 60/50 Hz
Power Consumption	25 Watts Max. (6 Watts Standby Max.)
Accepted Banknote Type	Paper, Polymer, etc.
Accepted Banknote Dimensions (L x W)	3.94 x 1.97 - 6.7 x 3.15 in 10 x 5 - 17 x 8 cm
Printer	Printer Compatible (Sold Separately)
Thermal Printer Paper Dimensions	Dimension: 2.25" x 125' Max. Core Diameter: 0.5"
Product Dimensions (L x W x H)	10.6 x 9.1 x 11.4 in (27 x 23 x 29 cm)
Product Weight	15.1 lb (6.9 kg)

AccuBANKER
7104 NW 50th St
Miami, FL 33166
9AM- 5PM ET Monday through Friday
www.AccuBANKER.com
Please give us a call at 1-888-993-2228