





# **2985-SX BANKNOTE COUNTER**

Thank you for purchasing Safescan 2985-SX banknote counter. For proper use and maintenance, we advise to read this user manual carefully.

#### **PLEASE TAKE NOTICE**

Should the equipment be altered in any way or used in a manner for which it was not intended at the time of delivery, the supplier of the equipment accepts no responsibility for injury or damage to personnel or equipment. If the conditions for use of the equipment are changed, the supplier must be contacted or the declaration of conformity will be invalidated.

## **SAFETY PRECAUTIONS**

- Place the machine on a flat and stable surface.
- Do not place the machine in dusty or dirty environments.
- Do not place the machine in direct sunlight or near heat sources or air conditioners.
- Always disconnect the power cord before performing maintenance on the machine.
- Always connect the machine to an earthed socket outlet.
- Use only the supplied power cord.
- Operation temperature 15-35 °C / 59-95 °F.
- Operation humidity 30-80% R.H.
- Do not use the machine outdoors.
- Do not expose the machine to liquids.
- This machine contains rotating parts. Never touch the moving parts when the machine is switched ON.
- Keep jewellery, long hair, ties and other protruding parts away while operating the machine.
- Never disassemble the machine.

## **PACKAGE CONTENTS**

- 1. Safescan 2985-SX banknote counter
- 2. Power cord
- 3. Spare fuse
- 4. Cleaning brush
- 5. 2x Cleaning sheet
- 6. Dust cover
- 7. Safescan Money Counting Software cable
- 8. Warranty card
- 9. Quick installation guide

#### **SETTING UP YOUR MACHINE**

- 1. Remove the protective foil from the touch screen.
- 2. Please take note of the instruction on the top panel how to open the top and back panel.
- 3. Connect the power cable to the machine and the power outlet.
- 4. Power on the machine with the power switch.
- The banknote counter will start initiating and performs a self-test. It will check the condition of the machine. After a successful self-test, the machine will open the count screen.



#### **MACHINE PARTS**



- 1. Banknote guides
- 2. Hopper
- 3. Control panel
- 4. TFT touch screen
- 5. Reject pocket
- 6. Stacker
- 7. Release handle of top panel
- 8. Feeding gap adjusting knob

- 9. Top panel
- 10. Back panel
- 11. Update port (USB-A / SD)
- 12. External display connector (RS-232)
- **13.** Print port connector (RJ-10)
- 14. Power switch
- 15. Mains power connector

#### **CONTROL PANEL**

1-		ADD CUR MODE REPORT 6 5	BATCH MENU BACK CLEAR 7 8 10 9
Nr	Button	Count mode	Menu mode
1.		Start counting.	Choose selection.
2.	$\bigcirc \bigcirc \bigcirc$	-	Select Previous/Next setting.
3.	ADD	ADD count results of multiple counts to	-
		the total.	
4.	CUR	Select currency.	-
5.	MODE	Select counting mode.	-
6.	REPORT	Open counting report.	-
7.	BATCH	Open batch menu.	-
8.	MENU	Open user menu.	Return to the count menu.
9.	BACK	-	Go back to previous screen.
10.	CLEAR	Clear counting results.	-

#### **DISPLAY OVERVIEW**



- 1. Number of banknotes in reject pocket
- 2. Selected batch number
- 3. Selected quick menu setting (Set-1/Set-2 or verify)
- 4. Selected currency setting
- 5. Add mode on selected
- 6. Automatic count start selected
- 7. Selected counting mode
- 8. Number of counted banknotes
- 9. Total value of counted banknotes

## **FIRST OPERATION**

- 1. The Safescan 2985-SX starts by default with the most convenient settings to start a count:
  - A. Currency: (---) Currencies that are available on the machine are automatically recognized.
  - B. Count mode: Mix Counting the value and quantity of both sorted and unsorted denominations.



 Set the banknote hopper guides so that the sides of the banknotes are enclosed. Organize your banknotes in a neat pile, make sure the backside of the pile is straight. Place the banknotes between the guides. The machine will automatically start counting.



- After finishing the count, the results are shown on the screen. Rejected banknotes are placed in the reject pocket. In case of a counterfeit suspected banknote the line in the display will colour red.
- 4. Press [REPORT] to view the detailed count report.



#### **SELECTING CURRENCIES**

- 1. Press [CUR] to switch to the next available currency.
- 2. The selected currency is shown in the left bottom corner of the screen.



## **EXPLANATION OF THE AVAILABLE CURRENCY SETTINGS**

Currency a	as shown on the screen	Description Currencies available on the machine are automatically recognized.	Explanation of usage	
(Automatic	currency selection)		With selected there is no need to manually select the currency before	
R: 0	Auto Mix		on the machine. The first detected currency will automatically be selected as the active currency of the count.	
	$\cup$		Suspected banknotes and all other currencies will be transported to the reject pocket	
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#### Multi

R: 0		Auto	Mix
currency	pcs		value
EUR	0		0
USD	0		0
GBP	0		0

Mix counting the amount and value of 3 preselected currencies simultaneously.

Counting the amount and value of 3 mixed currencies during the same count. Place banknotes of the preselected currencies on the machine. The results will be shown on the screen.

Suspected banknotes and currencies different from the set currencies will be transported to the reject pocket.

Currency as shown on the screen	Description	Explanation of usage Select currencies manually with the [CUR] button. After selecting a currency, the count mode, Value-Mix, becomes available.	
EUR, USD, GBP and other currencies that are available and loaded in the machine.	Counting banknotes of a specific currency.		
R: 0 Auto Mix			
ALL	Piece counting without any counterfeit detection.	Select ALL (UV/MG - UV+MG) to piece count banknote currencies not available on the machine.	
ALL UV	Piece counting with UV detection.		
ALL MG	Piece counting with MG detection.		
ALL UV + MG	Piece counting with both UV + MG		
R: 0 Auto Mix			
ALL UV + MG			

UV = Detection of Ultraviolet properties MG = Detection of Magnetic properties

#### **SELECTING COUNT MODES**

- 1. Press [MODE] to toggle through the available count modes.
- 2. The selected count mode is shown in the top right corner of the screen.



#### 

Mode	Main feature	Explanation of mode
		<b>Note:</b> Suspected banknotes and currencies different from the set currency selection will be transported to the reject pocket.
Mix R:0 Auto 20 USD (10	Counting the value of banknote	es. Counting the value and quantity of both sorted and unsorted denominations.
Sort R: 2 Auto USD	Sort banknotes per denominati Sort 2 40	ons. Counting the value and quantity of banknotes sorted per denomination. Denominations that are different than the first counted banknote are transported to the reject pocket.
Face R: 0 Auto USD	Sort banknotes per face side.	Counting the value and quantity of banknotes sorted per face side and denomination. Banknotes with a different face side or denomination than the first counted banknote are transported to the reject pocket.

#### Mode

# Orient R: 0 Auto Orient Otion USD 0

#### Main feature

Sort banknotes per orientation.



#### Explanation of mode

Counting the value and quantity of banknotes sorted per orientation and denomination. Banknotes with a different orientation or denomination than the first counted banknote are transported to the reject pocket.

Sort-Version



Sort banknotes per denomination version.



Counting the value and quantity of banknotes sorted per denomination version (divide old and new versions). Banknotes with a different denomination version than the first counted banknote are transported to the reject pocket.

#### Value-Mix



Count banknotes in batches of a preset value.



Set manually a desired value. The machine counts banknotes until the desired value is reached. Banknotes not useful in reaching the desired value will be transported to the reject pocket.

**Note:** Rejected banknotes could be placed continuously on the hopper until all possible value-batches are made.

**Note:** This function is not available for all currencies.

Count

Counting the quantity of banknotes or sheets.

Counting the quantity of banknotes without checking size, denomination, face or orientation specifics.

#### **BATCH COUNTING**

The batch function is used to create stacks of an equal number of banknotes.



Press [BATCH] to open the Batch entry screen. By default the batch number is set to 100.

- 1. Type the desired batch number on the touch screen and press [OK] to confirm.
  - Press [CLR] to clear the entry.
  - Press [ESC] on the touch screen to exit the batch entry screen.

Note: Without any action the screen will return to the count screen after 10 seconds.

2. In the count screen, the batch number is shown. Note: The batch function is not available in "Value-Mix" mode.

#### **USING THE ADD FUNCTION**

The ADD function is used to add the counting results of multiple counts to the total.

- **1.** Press [**ADD**] to activate the ADD function. In the screen, the ADD indication appears.
- 2. Press [ADD] again to deactivate the function.



#### SERIAL NUMBER SCANNING

The serial number scan function records the unique serial numbers of the counted banknotes. Serial number scanning is available for the following currencies: EUR, USD, GBP, CHF, HKD and CNY.

Activation of serial number scanning can be done in the user menu.

Viewing the serial number information:

- The serial number information is viewed on a receipt print after printing the count results. Printing can be done on the optional Safescan TP-230 printer.
- The Safescan 2985-SX also offers the possibility to export the serial number information to the Safescan Money Counting Software.

## ENGLISH COUNTING REPORT

- 1. After finishing a count, press [**REPORT**] to view the counting results.
- **2.** The report screen shows the amount and value per denomination and the total value.
- **3.** Press  $[\blacktriangle \nabla]$  to scroll through the results.

EUR	REPORT	1/3
den	pcs	value
5	5	10
10	15	150
20	5	100
50	23	1150
Total	48	1.410

#### DETECTING SUSPECTED NOTES

All detected suspected banknotes are transported to the reject pocket. If a suspected banknote is detected, the white coloured line in the screen will become red. After finishing the count (when the hopper is empty), the machine will make 3 beep tones and the red line will blink.

After removing all the banknotes from the reject pocket, the red line will return to the colour white.

To inspect the reason of rejecting the banknote, press [**REPORT**] and toggle with [▲▼] through the Reject list.



- 1. In the reject list, the total number of rejected banknotes is indicated in the title bar.
- 2. The number on the left-hand side of the screen indicates the location of the banknotes: Number 1 is the first banknote that has been transported to the reject pocket. If multiple banknotes are transported to the reject pocket, the number 1 banknote is located at the bottom of the stack.
- 3. The reason for rejection is shown on the right hand side.



The machine will give you a clear audible and visual notification when a suspected banknote has been detected. The following messages can be shown:

Error	Cause	Solution(s)
UV, MG, IR, IMAGE INCOMPLETE, IMAGE DISTORTION, IMAGE, NOT RECOGNIZED, IMAGE INCORRECT	<ul> <li>Banknote is suspected.</li> <li>The sensors may be dirty or blocked by dust.</li> <li>The image or integrated UV &amp; IR features of banknotes may become weaker when a banknote is old, heavily used or when it has accidentally been washed.</li> </ul>	<ul> <li>Count the banknote again to make sure if a suspected banknote is detected.</li> <li>Follow the cleaning procedure.</li> <li>Check if the banknotes are dirty, damaged or worn out.</li> <li>Make sure that the device is not in the vicinity of any magnetic fields or devices transmitting any signal since this may disrupt the integrated sensors.</li> </ul>
DIFFERENT DENOMINATION	• A banknote of a different denomination than the first counted banknote has been detected.	Check the rejected stack for a different denomination.
SLANT	<ul> <li>The banknotes are not being fed straight through the machine.</li> </ul>	• Ensure the banknotes are placed neatly and are inserted centred on the hopper. Use the hopper guides to center the banknotes and when counting a large stack of banknotes, guide the notes also with your hands during counting. Please refer to first operation.
CHAINED, DOUBLE	More than one banknote is being fed through the machine at the same time.	<ul> <li>Ensure that there are no banknotes stuck, folded or glued together.</li> <li>Check the banknote quality. If no obvious visible issues are found, count the banknote again and check if the problem persists.</li> <li>The hopper may be set too loose. Adjust the hopper screw in clockwise direction. See chapter maintenance and servicing.</li> </ul>
HALF BANKNOTE	An incomplete, torn or half-size banknote     has been detected.	<ul> <li>Check the banknote quality.</li> <li>If no obvious visible issues are found, count the banknote again and check if the problem persists.</li> </ul>

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Error	Cause	Solution(s)
WIDTH, LENGTH	<ul> <li>A banknote with a non-conforming size has been detected.</li> </ul>	<ul> <li>Check the banknote quality.</li> <li>If no obvious visible issues are found, count the banknote again and check if the problem persists.</li> </ul>
DENOMINATION VERSION DIFFERENCE	<ul> <li>A banknote with a different denomination version than the first counted banknote has been detected.</li> </ul>	Check the rejected stack for a different denomination.
FACE DIFFERENCE	• Face position different than first counted banknote.	• Select a different counting mode than FACE.
ORIENTATION DIFFERENCE	Orientation position different than first counted banknote.	Select a different counting mode than ORIENT.
SERIAL NUMBER BLACK LIST	Serial number is known as suspected banknote.	Contact the appropriate authorities.
SERIAL NUMBER SCAN ERROR	Could not scan the serial number.	Check if the serial number is not covered. Remove any covering and scan the banknote again.

#### QUICK MENU

The quick menu is a helpful tool that offers several features which are used regularly. Open the quick menu by simply pressing the touch screen once. With the quick menu opened, press a feature on the screen or press [**ESC**] to exit the quick menu.

**Note:** Without any action the quick menu screen will return to the count screen within 10 seconds.



Nr.	On the screen	Description	Usage
1.	Batch 20/25/50/100	Batch presettings.	Instruction
			<ol> <li>Press the touchscreen once to open the quick menu.</li> <li>Press a batch setting.</li> <li>The machine will return to the count screen with the selected batch settings activated.</li> </ol>
2.	Save Set-1 & Set-2	Save counting settings as currently indicated on the machine.	If certain specific counting settings are often used, it can be useful to save them on the machine. With this option, the currency, batch number, counting mode and add feature state, can be saved under Set-1 or Set-2.
			Instruction
			<ol> <li>Set the machine to the preferred settings.</li> <li>Press the touchscreen once to open the quick menu.</li> <li>Press [Save Set-1 or Set-2].</li> <li>The machine saves the current settings and returns to the quick menu.</li> <li>Press [ESC] to exit the quick menu.</li> </ol>
			<b>Note:</b> Settings can always be saved. Every time the [Save Set-1 or Set-2] is pressed, the current settings will overwrite previous saved settings.

з. Use Set-1 & Set-2 Use saved counting settings.



#### Instruction

- 1. Press the touch screen once to open the quick menu.
- Press [Use Set-1 or Set-2].
   The count menu opens using the saved settings. On the screen, the active indication Set-1 or /Set-2 icon appears.

**Note:** Changing the settings will directly disable the Use Set-1 or Set-2. The indication icon will disappear from the screen.

4. Print Print current count results.

**Note:** For printing the count results you'll need the optional TP-230 printer.

Nr.	On the screen	Description	Usage
5.	Verify	Open verify count function.	<ol> <li>Using the verify mode</li> <li>Press the touchscreen once to open the quick menu.</li> <li>Press [Verify].</li> <li>The count menu opens with the current used settings. All totals of the previous count are stored in memory. On the screen, the 'Verify' indication appears.</li> <li>Perform 1 or more verify counts.</li> <li>To exit the verify mode, press the touchscreen once and press [Verify].</li> <li>The machine will return to the saved count results of your previous counts.</li> </ol>
6.	ESC	Exit Quick Menu.	Instruction <ol> <li>Press [ESC].</li> <li>The machine will return to the count screen.</li> </ol>

#### **USER MENU**

- 1. Page number indication
- 2. Selection bar
- 3. Menu item
- 4. Item setting

1			1
	User menu	1/4	-0
2-	→Speed	2	
	Serial number scanning	On	
	Reject pocket capacity	50	
	Menu password	Off	
3	→Sound Alarm	On	
_	Sound Buttons	Off⊷	-4

#### WORKING WITH THE USER MENU

- 1. Press [MENU] to open the User menu.
- **2.** Use  $[\blacktriangle \lor]$  to select a menu item.
- 3. Press [START/OK] to activate the menu item. On the screen, the changeable item setting starts blinking.
- **4.** Use  $[\blacktriangle \nabla]$  to change the available settings.
- 5. Press [START/OK] to confirm your choice.
- 6. Press [BACK] to go back 1 step. Press [MENU] to exit the user menu.

#### **USER MENU ITEMS**

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Menu item	Setting description
Speed	Speed 1, 2 & 3. (800, 1000 & 1200 pcs/minute) Whether a count speed is available depends on the selected count mode and serial number settings. > Speed 2 & 3 are not available with serial number scanning active. > Speed 3 is only available in count mode.
Serial number scanning	Enable (On) or disable (Off) serial number scanning of banknotes for selected currencies.
Reject pocket capacity	Selectable capacities: 20, 30, 40, 50 banknotes.
Menu password	Enabled (On): A password is required for access to the user menu. The password is 7391. When requested, type this password on the touch screen and press OK.
Alarm sound	Enable (On) or disable (Off) alarm sound when an error occurs.
Button sound	Enable (On) or disable (Off) beep sound when a button is pressed.
Currency status	Activate and deactivate currencies. Deactivated currencies will not appear during usage.
Round Add-Batch	With both this function and ADD mode activated (On), the device will only add the count result of completed batches to the total. When the batch number isn't reached, the machine will 'correct' the total to the first multiple of the set batch amount.
Currency selection of the Multi-currency mode	Select 3 currencies to use in the multi-currency mode.
Show Device Firmware	Shows which firmware version is installed.
Currency s/w version	Shows which currency software version is installed.
Set machine back to factory defaults	Start reset procedure. After resetting, the device is set to default factory settings. All user settings are cleared.
Date format	Select which date format is used.
Date	Menu to manually enter the date.
Time format	Select which time format is used.
Time	Menu to manually enter the time.
Touchscreen calibration	Menu to calibrate the touch screen.
(De) Activating ccTalk	Enable (On) or disable (Off) ccTalk protocol.
Keep setting after restart	Enabled (On): The current user settings will be used after restarting. Disabled (Off): The machine will start with automatic currency detection, count mode Mix and Batch Off.
Counting start	Enabled (On): The machine will automatically start counting after placing banknotes on the hopper. Disabled (Off): The [ <b>START</b> ] button needs to be pressed to start counting.

#### ENGLISH

## **ERROR MESSAGES**

A variety of messages can be displayed on the Safescan 2985-SX. These messages can occur during counting, during start up or described in the 'Reject list'. The error message screen shows the main problem, the solution and the error message number.



## **ERROR MESSAGES LIST**

Error message displayed	Solution displayed
Machine error	Please restart the machine
	Open the top panel and remove all banknotes
	Open the back panel and remove all banknotes
	Remove all banknotes from the hopper
	Remove all banknotes from the stacker
	Remove all banknotes from the reject pocket
The stacker is full	Remove all banknotes from the stacker
The reject pocket is full	Remove all banknotes from the reject pocket
Top panel is open	Close the top panel
Back panel is open	Close the back panel

Hopper sensor is blocked	Remove banknotes/clear dust from the hopper sensor	
Stacker sensors are blocked	Remove all banknotes from the stacker/clear dust from the stacker sensors	
Reject pocket sensors are blocked	Remove all banknotes/clear dust from the reject pocket	
Top sensors are blocked	Open the top panel and remove dust	
Back sensors are blocked	Open the back panel and remove dust	
Machine service error	Contact Safescan support	

#### **MAINTENANCE & SERVICING**

## **OPENING THE TOP PANEL AND BACK PANEL**

To ensure continuous reliable operation, regular cleaning of the device's internal parts and sensors is required. Dust or dirt can rub off banknotes and disturb the proper functioning of the sensors. Also in case of jam errors, it might be necessary to open the top panel to remove jammed banknotes.

**Remark:** Always power OFF the machine and pull out the power cable from the machine before opening the top panel and back panel.

Note: The back panel can only be removed or placed back when the top panel is opened first!







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- 1. Use the enclosed cleaning aids (brush and cleaning sheets) for servicing the 2985-SX.
  - A. Start with brushing the top and bottom surface until all visible dust is removed.
  - **B.** Use the soft side of a cleaning sheet to wipe all further dust from the top and bottom surface, the sensors and rotation wheels.



 Pull out the back panel completely and clean as instructed. Clean the inside of the machine aswell. When done, you must close the panels in reverse order: Back panel > Top panel.



## **ADJUSTING THE FEEDING GAP**

When counting errors such as double notes, chained or slant notes occur frequently, or when banknotes are not being fed smoothly through the machine, it may be necessary to adjust the hopper adjusting knob. In the factory, the position of the hopper wheel is set optimal. However, due to the nature of some banknotes, an adjustment may be required to ensure optimal feeding.

- When the banknotes are not being counted smoothly: increase the note thickness distance by turning the adjusting knob clockwise (+).
- When counting errors such as 'double notes' or 'chained notes/double notes' occur often, decrease the note thickness distance by turning the adjusting knob anti-clockwise (-).



## **USE IN COMBINATION WITH SAFESCAN MONEY COUNTING SOFTWARE**

The Safescan 2985-SX can be used in combination with the free Safescan Money Counting Software. Visit: www.safescan.com/downloads. This enables you to export your counting results and serial number information to the PC for further processing.



The Safescan 2985-SX can also be used in combination with the optional Safescan TP-230 thermal printer. This enables you to make an instant printout of your counting results.



#### **SOFTWARE UPDATES**

Central banks are constantly updating their banknotes to incorporate the newest security features and make it even harder for counterfeiters to succeed. Safescan's dedicated currency management team will make sure your 2985-SX series banknote counter can keep pace with these changes.

Making sure your Safescan 2985-SX is up to date:

- 1. Check the currency software version on your machine. The software version is displayed in the machine's User Menu.
- 2. Go to www.safescan.com/downloads.
- 3. Fill in the category, product and part number. The latest software updates version will be shown.
- 4. Compare the version numbers and details to see if a software update is necessary.
- 5. If a software update is required: Download the software package and follow the included update procedure instructions.

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