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SC 8220
Currency Counter
User's Guide


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## General Information

SUZOHAPP reserves the right to revise and improve its products as it sees fit. This publication describes this product at the time of publication and may not reflect the product in the future.
This publication, or parts thereof, may not be reproduced in any form whatsoever other than for the purchaser's personal use without the express permission of SUZOHAPP.

## Declaration of Conformity

We, SUZOHAPP, declare under our sole responsibility, that the product in this manual, is in conformity with the following standards and/or other normative documents:

- EN 55022:2010+AC:2011
- EN 55024:2010+A1:2015
- EN 61000-3-2:2014
- EN 61000-3-3:2013
- EN 609501:2006+A11:2009+A1:2010+A12:2011+A2:2013
following the provisions of:
- LVD Directive 2014/35/EU
- EMC Directive 2014/30/EU


## Environmental Compliance

## Note

If the equipment contains batteries or accumulators, dispose of these separately according to local requirements.

## WEEE Directive (valid in the EU only)

Waste Electrical and Electronic Equipment Directive 2002/96/EC.
Equipment marked with this symbol must be treated separately and in accordance with any local legislation requiring proper treatment, recovery and recycling of used electrical and electronic equipment.

## RoHS

RoHS Restriction of Hazardous Substance Directive RoHS (EU) 2015/863.
Contact your SUZOHAPP representative for further details.

## FCC

Federal Communications Commission:

- FCC Part 15 Subpart B, Class B


## Responsibility

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

## Safety Precautions

This guide contains hazard information which must be read by all users. The hazard information is presented as a warning as follows:

WARNING!
Risk of personal injury!
Warnings indicate a potential hazard to the health and safety of users. They clearly state the nature of the hazard and how to avoid it. The warning symbols appear at their points of application in this guide.

## Caution!

Cautions indicate a hazard to the machine, but not a danger to personnel. They clearly state how to avoid the hazard. They appear at their points of application in this guide.


## WARNING!

## Risk of electric shock!

Lethal voltages exist in the machine when connected to mains power. Make sure you disconnect the power cord before cleaning or servicing the machine.

## WARNING!

## Risk of electric shock!

The machine is of metal construction and must therefore always be earthed to the supply. Ensure that both the plug on the supply lead and the supply source are earthed. This is a requirement for this type of equipment and if not adhered to will contravene the national and international standards of Health and Safety in the work place.

## WARNING! Risk of jamming!

This machine contains moving parts and sharp edges. Always be careful. Do not touch the components inside the machine while it is running.


## WARNING!

Risk of entanglement!
Keep long sleeves, ties, necklaces and long hair that can trigger the auto start sensor away from the machine. If the auto start function is enabled, the machine may start.


## Installation

## WARNING! <br> Risk of electric shock!

The machine is of metal construction and must therefore always be earthed to the supply. Ensure that both the plug on the supply lead and the supply source are earthed. This is a requirement for this type of equipment and if not adhered to will contravene the national and international standards of Health and Safety in the work place.

## WARNING!

Risk of tipping!
Follow the "Safety Precautions" on page 2.

The machine must be installed by an authorised SUZOHAPP representative.

## Note

The machine must be protected by a fuse or a circuit breaker in the electrical circuit.

Please also note the following when installing the machine:

- Operating temperature $15-35^{\circ} \mathrm{C}$
- Operating humidity

30-80\% R.H
Do not place the machine close to any radiators. Make sure there is some free space around the machine to allow the air to circulate.
The socket-outlet shall be installed near the equipment and shall be easily accessible.

If the plug on the supply lead to the machine has a fuse, make sure it has the correct rating in amps.
Use the supplied power cord at a properly grounded outlet.
The machine is exclusively for indoors usages, do not use it outdoors.
Do not disassemble machine. If there are any problems with operations, please contact the authorized distributor.
Do not exposes device to liquids, extreme humidity moisture.
Avoid operating device in environments with strong magnetic and electromagnetic fields. For example, keep device away from magnets, electrical appliances.
Although this machine has been tested and complies with the national and international standards/regulations, it is recommended that no equipment which generates a high level of electromagnetic interference (EMI) or vibration is placed close to the machine.

## Positional References

Unless stated otherwise, positions and directions such as left, right, upper, lower, rear, clockwise and counter-clockwise are given with respect to the machine when viewed from the front.

## Machine Label

The label below is an example of the information available on the machine.


## 1 Machine type

2 Supply voltage/Frequency/Current consumption
3 Serial No.
4 Year and place of manufacture
5 FC-symbol*
6 CE-symbol
7 RoHS*

* See "Environmental Compliance" on page 1.


## Introduction

The SC 8220 is a compact desktop currency sorter, light to carry and easy to operate. By touching the icons on the screen or the operator buttons beside the screen you can select how to perform the counting and sorting of banknotes.

Notes to be counted are placed on the hopper on top of the machine. As the notes are fed into the machine they are counted and then collected onto the stacker pocket at the bottom front. Rejected notes are diverted onto the reject stacker pocket
Before using the machine. Please carefully read this manual to fully understand how the machine is safety operated and how to avoid damaging the machine. Keep the manual in a safe place for future use.


## 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.


Quick guide


## Cleaning brush



## Power cable




## Dust cover



CD ROM with driver


## Machine Part Terminology



1 Hopper
2 3.2" Color TFT LCD touch screen
3 Red indicator for reject pocket
4 Reject pocket
5 Blue indicator for stacker
6 SD card slot


1 Adjusting screw
2 Power switch
3 Side carrying grip
4 Power connection (with fuse)
5 Port for network
6 Port for printer
7 RS232 port for external display
8 USB port for connection to PC
9 Lower note path door
10 Upper note path opening

## Control Panel Overview

| Button | Description |
| :--- | :--- |
| START | Press to start counting. <br> Also served as selection confirmation in MENU. |
| C | Press to clear the number of counted banknotes. <br> Press to turn off the batch function. <br> During selection in MENU, press C-button to set corre- <br> sponding setting to default value. |
| +1/+10 | Press to increase the batch number by 1 (short press) or <br> 10 (long press). |
| CUR | Currency and currency mode selection. <br>  <br> Long press display the full list of currencies. <br> BATCHPress to turn Batch mode on/off. <br> Press for setting of batch number. |
| PRINT | Press for a print out/receipt. |
| MODE | Press for sorting mode selection: Mix, Single, Face, Orient, <br> F\&O, VER. |
|  | Within modes Face, Orient, F\&O and VER, long press <br> switch from single (S) to Mix (M). |


| Button | Description |
| :--- | :--- |
| ADD | Press to turn ADD mode on/off. <br>  <br> Also served as navigation key UP |
| DISPLAY | Press to view the count result. <br>  <br> Also served as navigation key DOWN. <br> MENU |
|  | Press to enter/step back in MENU navigation. |
|  | Long press return to main screen from any menu depth navi- <br> gation. |

## Display Overview



1 Currency selection
2 Sorting mode
3 ADD mode
4 Batch
5 Counting result
6 Serial number

7 Network icon
8 SD card icon
9 Date and time
10 Auto/manual operation
11 Reject quantity

## Operation



## WARNING! <br> Risk of jamming!

Follow the "Safety Precautions" on page 2.

## Getting started

a) Connect the power cable to the machine and the power outlet.
b) Press the Power Switch button to I to switch on.

c) After a short boot-up and self-test, machine enters the main menu.

## Note

Images are only examples and can be different depending on the setup.

## Switching Off

a) Confirm that all counting results are saved.
b) Switch off the machine by setting the main switch to off (0).

## Inserting Banknotes

Avoid counting wet, dirty or spoiled banknotes.
a) Check for foreign matter mixed with the banknotes for example paper chips, rubber bands, clips and dust.
b) Straighten the folds or corners of the banknotes before insertion.
c) Put the banknotes on the hopper as shown below.

d) Adjust the note guides according to the longest banknote in the stack.

## Selecting Currency

## Selecting a preset currency

a) Press CUR, the following are listed on the display:

- AUTO (Automatic recognition mode),
- MULT (Multi-currency mode),
- COUNT (Count mode),
- CUR xxx and the available currencies are shown sequentially on the upper left corner of the display.
b) Select the desired currency and start processing the banknotes.




## Quick Currency Selection

| Quick CUR Selection |
| :--- |
| AUTO |
| MULT |
| COUNT |
| EUR |
| USD |
| GBP |
| INR |

a) Press and hold CUR.

All the available currencies are listed on the display.
b) Use DISPLAY and ADD to highlight the desired currency.
c) Press START to confirm the selection.

## Automatic recognition mode (AUTO)



The machine recognizes the currency according to the first note, provided that the currency is ON in the AUTO CUR Selection menu.

## Note

For further setting, please refer to "Automatic Recognition Currency Selection" on page 24.

## Multi-currency mode (MULT)

| MULT | Mix |  | B:-- |
| :---: | :---: | :---: | :---: |
| CUR | PCS | VAL |  |
| EUR | 17 | 650 |  |
| USD | 6 | 310 |  |
| GBP | 3 | 80 |  |
| R: 0 |  |  |  |
| Auto | 08-08-2016\|13:45|SD| |  |  |

The machine can process three currencies simultaneously.

## Note

For further setting, please refer to "Multi-Currency Configuration" on page 25 .

## Count Mode (COUNT)



The device counts the number of piece with no limitation of currency.
User can turn on/off/adjust the detection setting under COUNT mode setting in MENU.

## Note

For further setting, please refer to "Count Mode Setting" on page 17.

## Batch Counting

How to count a preset number of banknotes:

- Press BATCH or $\mathbf{+ 1 / + \mathbf { 1 0 }}$ to select banknote batch value by pieces or by preset values.


## Batch Counting by entering the desired batch value

a) Press BATCH.

| Batch Setup |  |  |  |
| :---: | :---: | :---: | :---: |
| 300 |  |  |  |
| 1 | 2 | 3 | CE |
| 4 | 5 | 6 | 0 |
| 7 | 8 | 9 | OK |

b) Input the desired batch value by using the touch screen. The largest batch value can be set to 999 .
c) Confirm with "OK" or press START.

The preset batch value is shown on the upper right corner of the display.

d) Increase the batch value by 1 by pressing $\mathbf{+ 1 / + 1 0}$.

Press and hold $\mathbf{+ 1} /+\mathbf{1 0}$ to increase by 10 .
When counting, the machine stops once the counted banknotes reach the batch quantity.

## Batch Counting by preset values


a) Press BATCH.
b) Then press BATCH multiple times. 100, 50, 20, 10,0 are shown sequentially on the display.
c) Select the desired banknote preset batch value. Press "OK" or START to confirm the batch value and go back to the main menu.
If user has no operation in 10 seconds or feeds in the banknotes, the batch setting will be saved.
When counting, the machine stops once the preset batch value is reached.

## Cancelling the Batch Function

a) When switch to "-", the preset batch value is disabled.
b) Press BATCH to cancel the batch function.


## ADD Mode

In ADD mode, all counting results are accumulated.

- Press ADD to switch between ADD mode on/off.


When ADD mode is turned on, "ADD" appears on the top line of the display.

When ADD mode is turned off, "ADD" disappears on the display.


## Sorting Modes

How to count banknotes with different sorting functions.
a) Press MODE to select the desired Sorting Mode.

The selected Sorting Modes are shown sequentially next to the currency code on the top line of the display. There are Mix, Single, Face, Orient, F\&O, and VER modes.
b) For Face, Orient, F\&O, and VER modes, user can switch between single ( S ) or mix ( M ) quickly from main screen by holding MODE-button.

## Red indicator for reject pocket

- Blinking red light.

Reject pocket has notes that is not supposed to be naturally there. For example, suspected notes, other currency, etc.

- Red light.

Reject pocket has normal rejected notes within the selected mode.

## Definition of the Sorting Modes

| Mode | Description |  |
| :--- | :--- | :--- |
| MIX | Mixed Value <br> Mode | Count mix denomination of banknotes. <br> Suspicious notes are sent to the reject <br> pocket. |
| Single | Single Value <br> Mode | Count banknotes based on the denomi- <br> nation of the first detected genuine note. <br> Different denomination or suspicious <br> banknotes are sent to the reject pocket. |


| Mode | Description |  |
| :--- | :--- | :--- |
| Face(S) | Face Sorting <br> Mode with <br> Denomina- <br> tion Detec- <br> tion | Count banknotes based on the denomi- <br> nation and the face of the first detected <br> genuine note. Different face, denomina- <br> tion, or suspicious banknotes are sent to <br> the reject pocket. <br> Note <br> Further Sorting function for the Face <br> Sorting Mode can be set under the Set- <br> ting Mode menu. Please refer to section <br> "Face Sorting Mode" on page 20. |


| Mode | Description |  |
| :---: | :---: | :---: |
| F\&O(S) | Face and Orientation Sorting Mode with Denomination Detection | Count banknotes based on the denomination, the face, and the orientation of the first detected genuine note. Different face, orientation, denomination, or suspicious banknotes are sent to the reject |
|  |  | Orientation 1, 2, 3, or 4 is recognized as individual orientation. |
|  |  | Note <br> Further Sorting function for the Face and Orientation Sorting Mode can be set under the Setting Mode menu. Please refer to section "Version Sorting Mode" on page 21. |
| VER(S) | Version Sorting Mode with Denomination Detection | Count banknotes based on the denomination and the version of the first detected genuine note. Different version, denomination, or suspicious Banknotes are sent to the reject pocket. |
|  |  | Note <br> Further Sorting function for the Version Sorting Mode can be set under the Setting Mode menu. Please refer to section "Orientation Sorting Mode" on page 20 |

## Counting Information

When banknote processing is done, press DISPLAY to see the detailed information of the accepted banknotes.


## Reject Reason

Press CUR or MODE to view the reject reason. If the machine rejects many banknotes, user can view the reject reasons by pressing DISPLAY.


## Print Function

## Printing the counting result using an external printer

a) Connect the supplied print cable on the back of the machine.
b) Connect the printer to the RS232 port of the print cable. And turn on the printer.
c) Make sure the correct baud rate is set under Print Setting in System Option.
d) Make sure the correct paper width is set under Print Paper in System Option.
e) After the count, press PRINT to print.
f) The printout lists the print title, currency code, transaction time, quantity of each denomination, subtotal, and total quantity and total value.

## Note

For serial number printout, please refer to section "Serial Number Recognition".

## Setting Up SC 8220

## Verifying and Adjusting Basic Settings

a) Enter the User Menu

- Press the Power Switch button. After a short boot-up and self-test, machine enters the main menu.
- Press MENU and the machine enters User Menu.

b) Highlight and select an item using the navigation keys.
- In the User Menu ADD and DISPLAY keys turn into navigation keys.
- Press ADD for up and DISPLAY for down
c) Press START to confirm the selection.
d) Press MENU to exit User Menu and go back to the main menu.


## Count Mode Setting

a) Highlight the "1 COUNT mode setting" item.

| User Menu |  |  |
| :--- | :--- | ---: |
| 1 | COUNT mode setting |  |
| 2 | Serial Number | OFF |
| 3 | Reject Reset | Standard |
| 4 | AutoManual | Auto |
| 5 | Speed | $M$ |
| 6 | Mode Setting |  |
| 7 | System Option |  |

b) Press START to confirm the selection.
c) Select the desired detection sensitivity parameter by using navigation keys, press START to confirm.

| Sensitivity Setup |  |
| :--- | :--- |
| 1 Width | 0 |
| 2 | Length |
| 3 | UV |
| 4 | MG |
| 5 | Thickness |
| 6 | Chain |
|  | 0 |
|  |  |

d) Press DISPLAY to reduce the value of the sensor and ADD to increase the value.
e) Press START to save the changes.

## Note

0 means detection off.
8 means the highest sensitivity value.
To discriminate banknote, please adjust from the higher sensitivity value like 6 to 8 .
Thickness setting is for double detection sensitivity.
Chain setting is for chain detection and recommended to be 1 that means activated.

| Sensitivity Setup |  |
| :--- | :--- |
| 1 | Width |
| 2 | Length |
| 3 | UV |
| 4 | MG |
| 5 | Thickness |
| 6 | Chain |
|  | 0 |
|  | 0 |

## Serial Number Recognition

a) Highlight the " 2 Serial Number" item.
b) Press START to confirm.

c) Activate or deactivate the serial number recognition function by using navigation keys.

- OFF serial number off
- ON(DATA) serial number data activated
- ON(PRINT) serial number data and printout
d) Press START to save the changes.


## Note

User can feed banknotes with any orientation, provided that the specific currency has serial number function supported.

## Reject Reset

a) Highlight the " 3 Reject Reset" item.
b) Press START to confirm the selection.
c) Use the navigation keys to switch between Auto or Standard mode.
d) Press START to save the changes.


With "Auto" activated, the machine clears the reject number automatically as soon as the banknotes are removed from the reject pocket, even while the machine is still counting.
With "Standard" activated, the machine clears the rejected number after pressing $\mathbf{C}$.

## Automatic / Manual Counting Start Mode

a) Highlight the "4 Auto/Manual" item.
b) Press START to confirm.
c) Switch between Automatic and Manual Counting start Mode.
d) Press START to save the setting.


- With "Auto" activated, the machine starts counting as soon as banknotes are detected on the hopper.
- With "Manual" activated, the machine starts counting when pressing START.


## Note

The Start Mode can also be switched in Main menu by holding START.

## Counting Speed

a) Highlight the " 5 Speed" item.
b) Press START to confirm.
c) Use navigation keys to select desired Counting Speed.

- L: 800 notes/minute
- M: 900 notes/minute
- H: 1100 notes/minute


## Note

In counterfeit detection mode, high speed is forbidden.

## Sorting Mode Setting

a) Highlight the " 6 Mode Setting".
b) Press START to confirm.

## Face Sorting Mode

a) Highlight the "1 Face Mode" item.
b) Press START to confirm.
c) Select mode for Face Sorting by using navigation keys, and press START to confirm.


- Face(M) Mix:

Face Sorting of Mixed Denomination.

- Face(S) Single:

Face Sorting with Denomination Detection.

## Note

Default setting is Single.

## Orientation Sorting Mode

a) Highlight the "2 Orient Mode" item.
b) Press START to confirm.
c) Select mode for Orientation Sorting by using navigation keys, and press START to confirm.


- Orient(M) Mix:

Orientation Sorting of Mixed Denomination.

- Orient(S) Single:

Orientation Sorting with Denomination Detection.

## Note

Default setting is Single.

## Face and Orientation Sorting Mode

a) Highlight " $3 \mathrm{~F} \& \mathrm{O}$ Mode" item.
b) Press START to confirm.
c) Select mode for Face and Orientation Sorting by using navigation keys, and press START to confirm.

| Mode Setting |  |  |
| :--- | :--- | ---: |
| 1 | Face Mode | Single |
| 2 | Orient Mode | Single |
| 3 | F\&O Mode | Mix |
| 4 | Version Mode | Single |
|  |  |  |
|  |  |  |

- F\&O(M) Mix:

Face Sorting and Orientation Sorting of Mixed Denomination.

- F\&O(S) Single:

Face Sorting and Orientation Sorting with Denomination Detection.

## Note

Default setting is Single.

## Version Sorting Mode

a) Highlight "4 Version Mode".
b) Press START to confirm.
c) Select mode for Version Sorting by using navigation keys, and press START to confirm.


- VER(M) Mix:

Version Sorting of Mixed Denomination.

- VER(S) Single:

Version Sorting with Denomination Detection.

## Note

Default setting is Single.

## Viewing Version Information of Machine

a) Highlight the " 8 Version" item.
b) Press START to confirm.


- CURKIT000 Currency kit number
- SN:000001 Serial number
- HW:40.3.10.2.4.8.2.2.11.9 Hardware version
- SW:2016007-05 16:41:34 Software compiling time


## Setting Import

a) Insert an SD card into the SD card slot. The SD card should have setting.txt created from Setting Export.
b) Highlight the "10 Setting Import" item.
c) Press START to confirm.
d) The user parameters will be loaded into the machine. After that, please follow the on-screen instruction to restart the machine.

## Setting Export

a) Insert an SD card into the SD card slot.
b) Highlight the " 11 Setting Export" item.
c) Press START to confirm.
d) The user parameters will be saved into the SD card as setting.txt.

## Network Setting

a) Highlight the "12 Network Setting" item.
b) Press START to confirm.

| Network Setting |
| :--- |
| Client IP:192.168.11.249 |
| Server IP:192.168.11.186 |
| Netmask:255.255.255.0 |
| Gateway:192.168.11.1 |
| Client Port:11111 |
| Server Port:55555 |
| MAC:40.AA.00.00.45.72 |

c) Select the desired item by using navigation keys, and press START to confirm.

d) Enter desired value by using the touch screen.
e) Press START or OK to save.
f) Restart the machine.

## Basic Device Settings

a) Highlight the " 7 System Option" item.
b) Press START to confirm.


## Reject Pocket Capacity Settings

a) Highlight the "1 R-P Capacity" item.
b) Press START to confirm.
c) Select the desired reject pocket capacity by using navigation keys. 50, 40, 30, and 20 are available.

d) Press START to save the changes.

## Protocol

a) Highlight the " 2 Protocol" item.
b) Press START to confirm.

| System Option |  |  |
| :--- | :--- | ---: |
| 1 | R-P Capacity | 50 |
| 2 | Protocol | A |
| 3 | AUTO CUR Selection |  |
| 4 | Quick CUR Selection |  |
| 5 | MULT CUR Selection |  |
| 6 | EXT UV |  |
| 7 | Beep Setup | $\square$ |

c) User can choose SCAN COIN protocol (A) or the protocol specific for SC 8220 CashNetwork software (B) by using the navigation keys.

| System Option |  |  |
| :--- | :--- | ---: |
| 1 R-P Capacity | 50 |  |
| 2 | Protocol |  |
| 3 | AUTO CUR Selection |  |
| 4 | Quick CUR Selection |  |
| 5 | MULT CUR Selection |  |
| 6 | EXT UV |  |
| 7 | Beep Setup |  |

d) Press START to save.

## Automatic Recognition Currency Selection

a) Highlight the " 3 AUTO CUR Selection" item, and then confirm with.
b) Press START to confirm.
c) Use ADD and DISPLAY to highlight the desired currency.
d) Press START to confirm.
e) Use navigation keys to change between ON and OFF, and then confirm with.

| AUTO CUR Selection |  |  |
| :--- | :--- | ---: |
| 1 | EUR | ON $\boxed{ }$ |
| 2 | USD | ON |
| 3 | GBP | ON |
| 4 | INR | OFF |
| 5 | JPY | ON |
| 6 | RUB | ON |
| 7 | CHF | ON |

f) Press START to save the changes.

## Note

User can select maximum 10 currencies for AUTO mode.

## Note

If two currencies have banknotes that look similar, suggest to turn off one of them in AUTO mode.

## Quick Currency Selection

a) Highlight the " 4 Quick CUR Selection" item.
b) Press START to confirm.
c) Use ADD and DISPLAY to highlight the currency.
d) Press START to confirm.
e) Use navigation keys to toggle between ON and OFF.

f) Press START to confirm.

## Note

This feature is very useful if user wants to reduce the number of currencies on the cycle when pressing CUR.

## Multi-Currency Configuration

a) Highlight the " 5 MULT CUR Selection" item.
b) Press START to confirm.
c) Use ADD and DISPLAY to highlight the desired currency.
d) Press START to confirm.
e) Use navigation keys to toggle between ON and OFF.

f) Press START to confirm.

## Note

In Multi-Currency mode, user can configure maximum 3 currencies.

## Note

If two currencies have banknotes that are similar, turn off one of them in MULT mode.

## External UV Settings

External UV can be activated by pressing the dedicated UV switch, or activated automatically when there is a rejected banknote.
a) Highlight the "6 EXT UV" item.
b) Press START to confirm.

## Manual and Automatic UV Mode

a) Highlight the " 1 EXT UV Mode" item.
b) Press START to confirm.
c) Use the navigation keys to switch between manual and automatic external UV mode.

d) Press START to confirm.

- With "Auto" selected, the External UV emits automatically when there is banknote rejected.
- With "Manual" selected, the External UV emits by pressing the dedicated UV switch on the lower left of the machine.


## Automatic turn off Time for the External UV

a) Highlight the " 2 EXT UV auto off" item.
b) Press START to confirm.

c) Use the navigation keys to set the automatic turn off time.

## Sound Settings

a) Highlight the " 7 Beep Setup" item.

b) Press START to confirm.

## Turning on/off Key Beep Settings

a) Highlight the " 1 Key Beep" item.
b) Press START to confirm.
c) Use navigation keys to toggle between Key Beep Normal and Mute.
d) Press START to confirm.

| Beep Setup |  | Beep Setup |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 1 Key Beep | Mute | 1 | Key Beep | Normal |
| 2 Alarm Beep | Mute | 2 | Alarm Beep | Mute |

## Turning off Alarm Settings

a) Highlight the " 2 Alarm Beep" item.
b) Press START to confirm.
c) Use navigation keys to toggle between Alarm Beep Normal and Mute.

d) Press START to confirm.

When Alarm Beep is turned on, the machine makes beep sound when there are rejected notes after the counting.

## Setting Up Date and Time

a) Highlight the " 8 Date \& Time" item.

| System Option |  |
| :--- | :---: |
| 8 Date \& Time |  |
| 9 Language |  |
| 10 Sleep Time |  |
| 11 Touch Calibration |  | Off

b) Press START to confirm.

Changing Date Format Setting.
a) Highlight the "1 Date Format" item.
b) Press START to confirm.
c) Use navigation keys to toggle between Date Formats.

d) Press START to confirm.

## Changing Date and Time Settings

a) Highlight the " 2 Date Setup or " 3 Time Setup" items.
b) Press START to confirm.
c) Use navigation keys to highlight the desired value to modify.

d) Press START to confirm the value to modify.

The colour of the selected value will change from black to purple.
e) Use navigation keys to change the value.
f) Press START to confirm.
g) Press MENU to leave.

## Changing User Interface Language

a) Highlight the "9 Language" item.

| System Option |  |
| :--- | :--- |
| 8 Date \& Time |  |
| 9 Language | Of |
| 10 Sleep Time <br> 11 Touch Calibration |  |

b) Press START to confirm.

| Language |
| :--- |
| English |
| français |
| italiano |
| Deutsche |
| Español |

c) Use the navigation keys to select the language.
d) Press START to confirm.
e) After finishing the settings, press MENU to leave this menu.

## Activating Sleep Mode

a) Highlight the "10 Sleep Time" item.
b) Press START to confirm.

c) Use the navigation keys to set the sleep time, then press START to confirm.

## Note

During sleep mode, the display turns off and only the blue indicator blinks every few seconds to remind. The machine can be activated by pressing any key or by feeding the banknote.

## Calibrating Touch Screen

a) Highlight the " 11 Touch Calibration" item.

| System Option |  |  |
| :--- | ---: | ---: |
| 8 Date \& Time |  |  |
| 9 Language |  |  |
| 10 Sleep Time | Off |  |
| 11 Touch Calibration |  |  |
| 12 ccTalk | OFF |  |

b) Press START to confirm.

c) Follow the on-screen instructions to touch the red dot by finger.

## Turning ON/OFF ccTalk

To turn on/off ccTalk protocol for the PC software using ccTalk protocol by connecting to the serial port.
a) Highlight the " 12 cc Talk" item.
b) Press START to confirm.

c) Use the navigation keys to toggle ON and OFF.
d) Press START to confirm.

## Switching Between External LED and LCD Display

a) Highlight the "13 External Display" item.
b) Press START to confirm.

c) Use the navigation keys to toggle LCD, LED(VAL) and LED (PCS).
d) Press START to save the changes.

## Setting Display Contrast

a) Highlight the " 14 LCD Contrast" item.
b) Press START to confirm.

c) Change the Display Contrast by using the navigation keys.

- Press ADD to increase.
- Press DISPLAY to decrease.
d) Press START to save the changes.


## Setting Display Backlight

a) Highlight the " 15 LCD Backlight" item.
b) Press START to confirm.

c) Change the Display Contrast by using the navigation keys.

- Press ADD to increase.
- Press DISPLAY to decrease.
d) Press START to save the changes.


## Print Settings

## Printer Baud Rate Settings

a) Highlight the " 16 Print Setting" item.
b) Press START to confirm.
c) Use navigation keys to select the desired baud rate of the connected printer.


- 9600: 9,600 bps
- 19200: 19,200 bps
- 28800: 28,800 bps
- 38400: 38,400 bps
- 57600: 57,600 bps
- 115200: 115,200 bps
d) Press START to save the change
e) Press MENU to leave.


## Print Title Settings

a) Highlight the "17 Print Title" item.
b) Press START to confirm. The current print title is shown.
c) Press START one more time to enter the interface for entering.
d) After entering the print title, press START or OK. Wait for a few seconds, then the print title is saved.

e) Press MENU to leave.

## Note

Upper case and lower case can be switched by pressing PRINT.

## Print Paper Settings

a) Highlight the "18 Print paper" item.
b) Press START to confirm.

c) Check the paper width of the connected printer.

- 57.5 mm : 2-inch paper
- 79.5 mm : 3-inch paper
d) Use navigation keys to select the paper width of the connected printer.
e) Press START to save the changes.


## Additional Features

## Print Auto-Cut

a) Highlight the "19 Print Auto-Cut" item in System Option.
b) Press START to enter.
c) In Auto-Cut, press START to select ON/OFF.
d) In Auto-Cut Code, enter the auto-cut code of the respective printer by checking with the printer manufacturer. For default value, press $\mathbf{C}$. Below are some examples of known codes:

- STAR 654 1B. 64
- CITIZEN CT281 1B. 69
e) Press START or OK to confirm.
f) Press MENU to leave.


## Add blank lines after end of ticket

a) Highlight the " 19 Print Auto-Cut" item in System Option.
b) Press START to enter.
c) In Auto-Cut, press START to select ON/OFF.
d) In Auto-Cut Code, add the code 0A for each empty row, for example 0A.0A.0A.0A for 4 rows.

- For auto-cut printer, this must be before the auto-cut code (see previous point).
- For printer without auto-cut, just add the required number of 0A.
e) Press START or OK to confirm.
f) Press MENU to leave.


## Stacker Full Quantity

a) Highlight the " 20 Stacker Full Quantity" item in System Option.
b) Press START to confirm.
c) Use navigation keys to select the desired stacker full quantity: 100, 150, 200, 220.
d) Press START to confirm.
e) Press MENU to leave.

## Split Total Order

a) Highlight the "21 Split Total Order" item in System Option.
b) Press START to enter.
c) Select 'Small To Large' to display the split total form small to large denominations.
d) Select 'Large To Small' to display the split total from large to small denominations.
e) Press START to confirm.

## Batch Add Mode

a) Highlight the " 22 Batch Add Mode" item in System Option.
b) Press START to turn ON/OFF.

When it is ON, the PCS and VAL will continue to add after counting each batch.
When it is OFF, the PCS and VAL will not continue to add after counting each batch.

## Denomination Selection

a) Highlight the " 23 Denomination Selection" item in System Option.
b) Press START to enter.
c) Select the currency and press START to enter.
d) Select the specific denomination to turn it ON/OFF by pressing START. Highest V number means the latest version.
e) Press MENU to leave.

When OFF, the specific denomination will be rejected. When certain version of denomination is required to be withdrawal or rejected, user can turn it off.

## Value Batch

In value batch mode, user can set a value. When reaching the set value, the machine will stop.
When a note is too big for the remaining amount to fill the batch value, it will also be rejected.

- Long press BATCH to switch to value batch mode.
- Long press BATCH to switch back to normal batch mode.
- Press BATCH to enter the numeric interface for setting the value. Then press OK or START to confirm.
- On the main screen, press BATCH to clear the set value. When the set value is clear, value batch mode is off.


## START key to pause

During counting, user can press START key to pause if needed.

## Quick return to main screen

Long press MENU key can return to main screen directly.

## Maintenance

## Accessing Note Path




## Cleaning

Clean the machine daily to prevent from accumulation of dirt, since this may cause too many banknotes to be rejected.

Use an air brush to blow away dirt from the sensors.

## Caution

## Only use cleaning materials and tools which do not scratch.

Clean the outside of the machine with a soft cotton towel. Take care not to let any excess liquid drip into the interior of machine.

## Cleaning note path

a) Open the Upper Note Path.
b) Gently wipe or dust the Note Path with a small, soft brush or a dry, soft lint-free cloth.
c) 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.
d) Wring out as much of the liquid as you can.
e) Wipe the Note Path and the sensor surfaces again; do not let any liquid drip into the machine.
f) Repeat a-e to clean the Lower Note Path.

## Caution

Avoid spraying cleaner directly on machine, and be sure to dry the Note Path before closing it.

## Exchanging Fuse

## WARNING!

Risk of electric shock.
Follow the "Safety Precautions" on page 2.
a) Disconnect the main power cable before opening the cover, otherwise you might risk an electric shock.
b) To exchange the fuse, please remove the cover first.


## Note

Replace the cover properly after exchanging the fuse.

## Caution

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

## Adjusting Feeding Gap

The position of the adjusting screw on the top cover has already been set to the best position at the factory. If banknote feeding is unsmooth or banknote counting is inaccurate, it can be necessary to adjust the adjusting screw to optimize the banknote transport.


- Clockwise for increasing the gap between the resistance wheel and the banknote twiddling wheel gear.
- Counter-clockwise for decreasing the gap.


Test by putting a bank note in the hopper and hold. If you feel the pull, the machine is workable.

## Note

The adjusting screw is very sensitive, make only minor adjustment.

## Software Update

Update SC 8220 using an SD card. Follow strictly the instructions below to update your machine in the correct way.
a) Turn on the machine.
b) Put the UPDATE folder in the root directory of an SD card.
c) Insert the SD card into the SD card slot.
d) Press MENU to enter the User Menu.
e) Highlight "9 Upgrade" item and press START to confirm.
f) The machine selects the installed CURKIT automatically, press START to continue.
g) Input the password by using the touch screen. Press $\mathbf{O K}$ to confirm. The machine will start updating.
h) After the screen shows "Updating OK, Restart Please!", remove the SD card and restart the machine.

## Note

During the upgrading process, be sure to prevent interruption of power or SD card. Please use 8,16 , or 32 GB SD card.

## Error Message

## Self-test error message

| Code | Error message | Solutions |  |  |  |
| :--- | :--- | :--- | :---: | :---: | :---: |
| S01 | Feeding Fault | Remove the banknote, clean the feeding sensor. |  |  |  |
| S02 | Receiving Fault | Remove the banknote, clean the receiving sensor. |  |  |  |
| S03 | Rejector Faults | Remove the banknote, clean the rejector sensor. |  |  |  |
| S04 | UV Fault | Remove the banknote, clean the UV sensor. |  |  |  |
| S05 | FL Fault | Remove the banknote, clean the sensor. |  |  |  |
| S06 | Left\#1 Counting Fault | Remove the banknote, clean the Counting IR sensor. |  |  |  |
| S07 | Right\#1 Counting Fault the errors remain, please perform the Counting IR sensor calibration. |  |  |  |  |
| S08 | Left\#2 Counting Fault |  |  |  |  |
| S09 | Right\#2 Counting Fault | Remove the banknote, clean the IR counting tube. <br> S10 <br> Left CIS IR Fault |  |  | Remove the banknote, clean the rotate speed sensor 1. |
| S11 | Right CIS IR Fault | Remove the banknote, clean the rotate speed sensor 2. |  |  |  |
| S12 | Rotate\#1 Speed Fault | Remove the banknote, clean the CIS sensor. |  |  |  |
| S13 | Rotate\#2 Speed Fault | Perform the CIS sensor calibration. |  |  |  |
| S14 | CIS\#0 Fault | Power off. restart the machine. If the problem persists, Replace the AD chip on the main. |  |  |  |
| S15 | CIS\#1 Fault | 1) <br> It's possible the speed of the machine is abnormal. Please do the motor speed calibration. <br> If the error persists after calibration, maybe there is something wrong with motor control board, <br> please replace the motor control board. <br> If the machine still has problem after replacing motor control board, then please replace the feeding <br> motor. |  |  |  |
| S18 | CIS\#2 Fault | AD Fault |  |  |  |


| Code | Error message | Solutions |
| :---: | :---: | :---: |
| S20 | Diverter \#1 Fault | Please adjust the location of commutator. |
| S21 | Diverter \#2 Fault |  |
| S22 | Diverter \#3 Fault |  |
| S23 | Diverter \#4 Fault |  |
| S24 | Auto Adjust IR Fault <br> Please Clean Count Sensor! | 1) The counting IR sensor is blocked off by dust, please use a brush or a piece of soft cloth to clear the dust on the sensor. <br> 2) If the machine still has problem, please do the counting IR calibration first. <br> 3) If that cannot solve the problem, please replace the counting IR sensor. |
| S25 | MG\# 1 Fault <br> MG\#2 Fault <br> MG\#3 Fault | Check if the plugs on the left magnetism board get loose, if the plugs do not get loose, then please replace the left magnetism board sub-assembly. |
| S26 | MG\#4 Fault <br> MG\#5 Fault | Check if the plugs on the MRS magnetism board get loose, if the plugs do not get loose, then please replace the MRS magnetism board sub-assembly. |
| S27 | MG\#6 Fault <br> MG\#7 Fault <br> MG\#8 Fault | Check if the plugs on the right magnetism board get loose, if the plugs do not get loose, then please replace the right magnetism board sub-assembly. |
| S28 | MID-MG Fault MID-MT Fault | Check if the plugs on the middle magnetism board get loose, if the plugs do not get loose, then please replace the middle magnetism board sub-assembly. |
| S29 | CIS\#3 Fault | Remove the banknote, clean the CIS sensor. Perform the CIS sensor calibration. |

## Detective error message

| Code | Error message | Solutions |
| :--- | :--- | :--- |
| D01 | UV-Error <br> FL-Error | Remove the banknotes, clean the sensor. <br> If the error persists, please do the UV calibration. |
| D02 | MG-Error | Clean the magnetic sensor. |
| D03 | MG1-Error | Lower the sensitivity level |


| Code | Error message | Solutions |
| :--- | :--- | :--- |
| D21 | Old Ver |  |
| D22 | Judge |  |
| D23 | SN-Error |  |
| D24 | SN Invalid |  |
| D25 | SN Repeat |  |
| D26 | Face Diff |  |
| D27 | Orient Diff |  |
| D28 | Ver Diff |  |
| D29 | Deno Diff |  |
| D30 | Soiling |  |
| D31 | Stains |  |
| D32 | Graffiti |  |
| D33 | De-inked note |  |
| D34 | Tears |  |
| D35 | Mutilation |  |
| D36 | Repairs |  |
| D37 | Crumples |  |
| D38 | Limpness |  |
| D39 | Fold |  |
| D40 | Corner Folds |  |
| D41 | Stacker Full |  |
|  |  |  |


| Code | Error message | Solutions |
| :--- | :--- | :--- |
| D42 | Reject Full | The reject pocket is full. <br> Remove the banknotes from the reject pocket. |
| D43 | Cover Open | Close the top cover. |
| D44 | Jam | 1)Some foreign substance falls inside the machine or notes are blocked, open the back cover <br> to remove them. <br> If it occurs frequently, please lower the motor speed parameter. <br> 3) <br> If the problem still persists after adjustment, please turn the adjusting screw clockwise, the <br> feeding gap will increase, and then check if the tooth rubber between the feeding wheel and <br> the twiddling wheel are consistent. <br> D45 <br> TIME2 |

## Technical Data

| ion | S, MT, UV |
| :---: | :---: |
| Counting speed. | . . 800 / 900 / 1100 notes/min |
| Hopper Capacity. | 500 notes |
| Stacker Capacity | 220 notes |
| Reject Pocket Capacity | . Max 50 notes |
| Power supply. | AC100~240V, $50 / 60 \mathrm{~Hz}$ |
| Power consumption | . 550 W |
| Temperature | $.0^{\circ} \mathrm{C} \sim 40^{\circ} \mathrm{C}$ |
| Humidity | 40~90\% |
| Interface | AN, RS232, RJ-11, USB, SD Card |
| Dimensions | $275(\mathrm{~W}) \times 260(\mathrm{D}) \times 319(\mathrm{H}) \mathrm{mm}$ |
| Weight | 9.30 kg |

Products subject to change without further notice.

