

Masterwork Automodules
Technology Corporation Ltd.

User Manual

Complexity to Simplicity / 3-Pocket Fitness Sorter

ENGLISH



NC8500



Counter & Sorter

Smart Multi-Currency Counterfeit Counter & Sorter



CDS (Cash Deposit System)

Dynamic Solution for Cash Management



Cashier

Self-Order Machine/Kiosk with best solutions

■ User Manual □ Service Manual □ Maintenance Work □ Others

Doc. No.: No. UMS20180091021

Category: □ Counter ■ Sorter □ CDS □ Cashier

Model: NC8500 3-Pocket Fitness Sorter

REVISION HISTORY

Date(mm/dd/yyyy)	Revision	Modifications
05/24/2016	1.0	Release
09/10/2018	2.1	Revise

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ABBREVIATION AND ACRONYMS USED

CIS = Contact Image Sensor	PMI = Personal Machine Interface (Control Unit w/Panel)
IR = Infrared	PC = Personal Computer
MG = Magnetic	USB = Universal Serial Bus
MR = Magneto Resistive	MB = Megabyte
UV = Ultra Violet	LCD = Liquid Crystal Display
MT = Metal Thread	SD = Secure Digital (Memory Card)

CONTACT INFORMATION

- Please read this manual thoroughly before operating.
- Keep this manual for future reference.
- For more information, refer to www.automodules.com

IMPORTANT NOTES & SAFETY PRECAUTION

Electrical Safety

To avoid the risk of electrical shock, fire or damage to NC8500:

- DO NOT remove the side covers, rear or bottom cover in any situation.
- DO NOT disassemble NC8500 by anyone unauthorized by Masterwork Automodules.
- DO NOT use damaged or worn power cord or plugs. Always use the power cord supplied inside the original packaging carton and connect to a properly grounded power outlet or to a power strip with surge protector. The power source for NC8500 is AC 90V~240V, 60Hz.
- Keep metal objects, such as paper clips, away from the hopper and stacker. If a foreign object does fall into the NC8500, turn off the power and unplug immediately. Contact the NC8500 service provider for assistance.
- Keep liquids away from NC8500. DO NOT operate NC8500 if it is wet. Also, DO NOT touch the device if being wet. If a spill occurs, turn off the power and unplug immediately. Contact one of our authorized service providers for help.

Caution

NC8500 may start operating accidentally in certain circumstances, therefore:

- DO NOT wear loose clothing or jewelry while operating NC8500.
- Make sure the hair does not touch or enter into the device while its operation.
- DO NOT touch banknotes that are delivered into the stacker while the motor is running. Wait until the stacker indicator lights up and remove banknotes from stacker.
- Always turn off the power before performing any maintenance or error corrections that require putting hands into the device.
- Keep NC8500 away from magnets, activated cellular phones, electrical appliances, or speakers within 13cm / 5inch.

Important

In order to count banknotes smoothly without jamming or error, it is crucial to:

- Avoid counting wet, excessively dirty, spoiled banknotes.
- Check if foreign objects such as clips, staples or rubber bands stuck with banknotes, remove them or it could jam the conveyor even end up damaging the sensors.
- Flatten folds or curls banknotes before placing them onto the hopper.



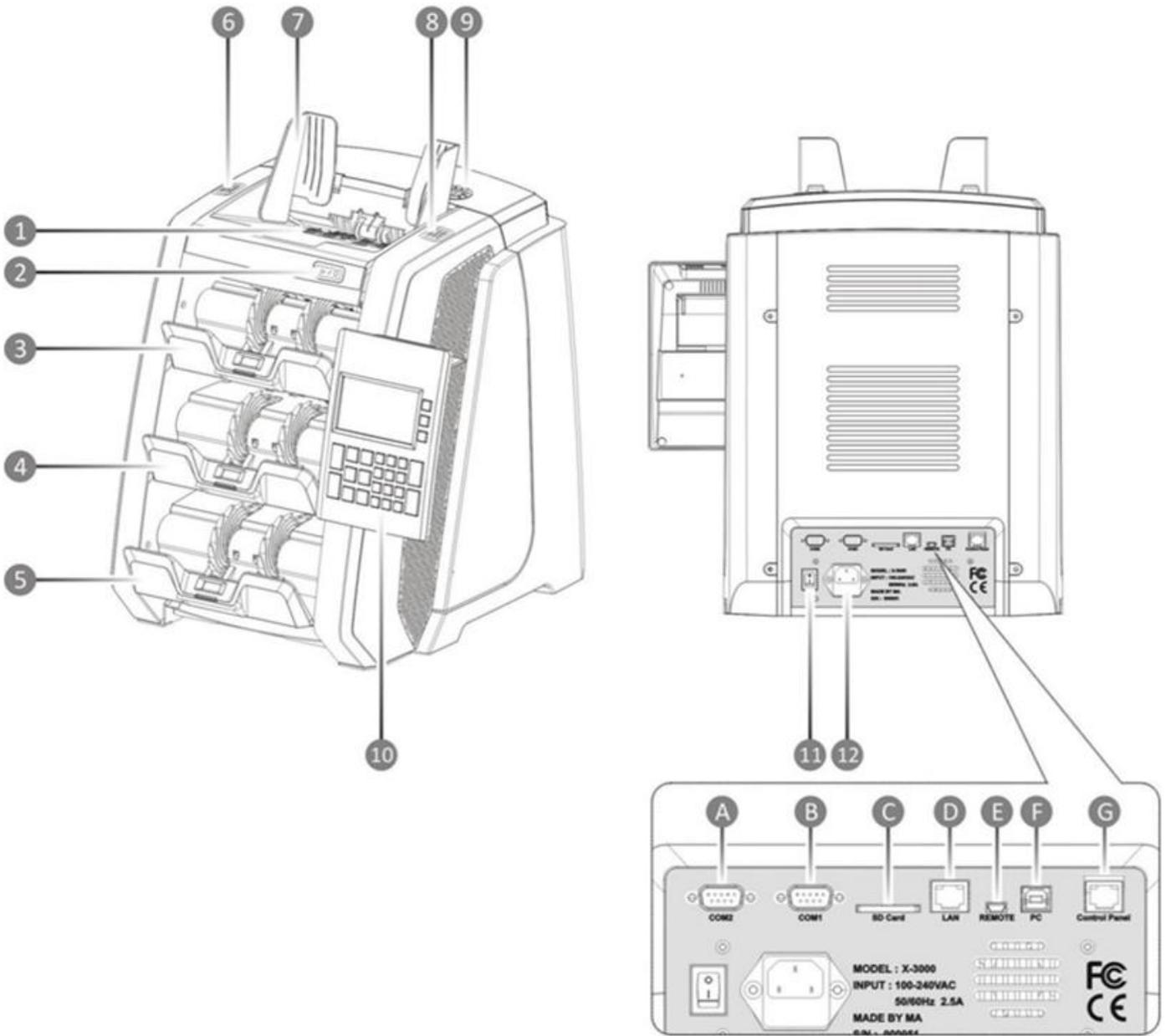
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NC8500-OVERVIEW

At a Glance

Front/Rear View

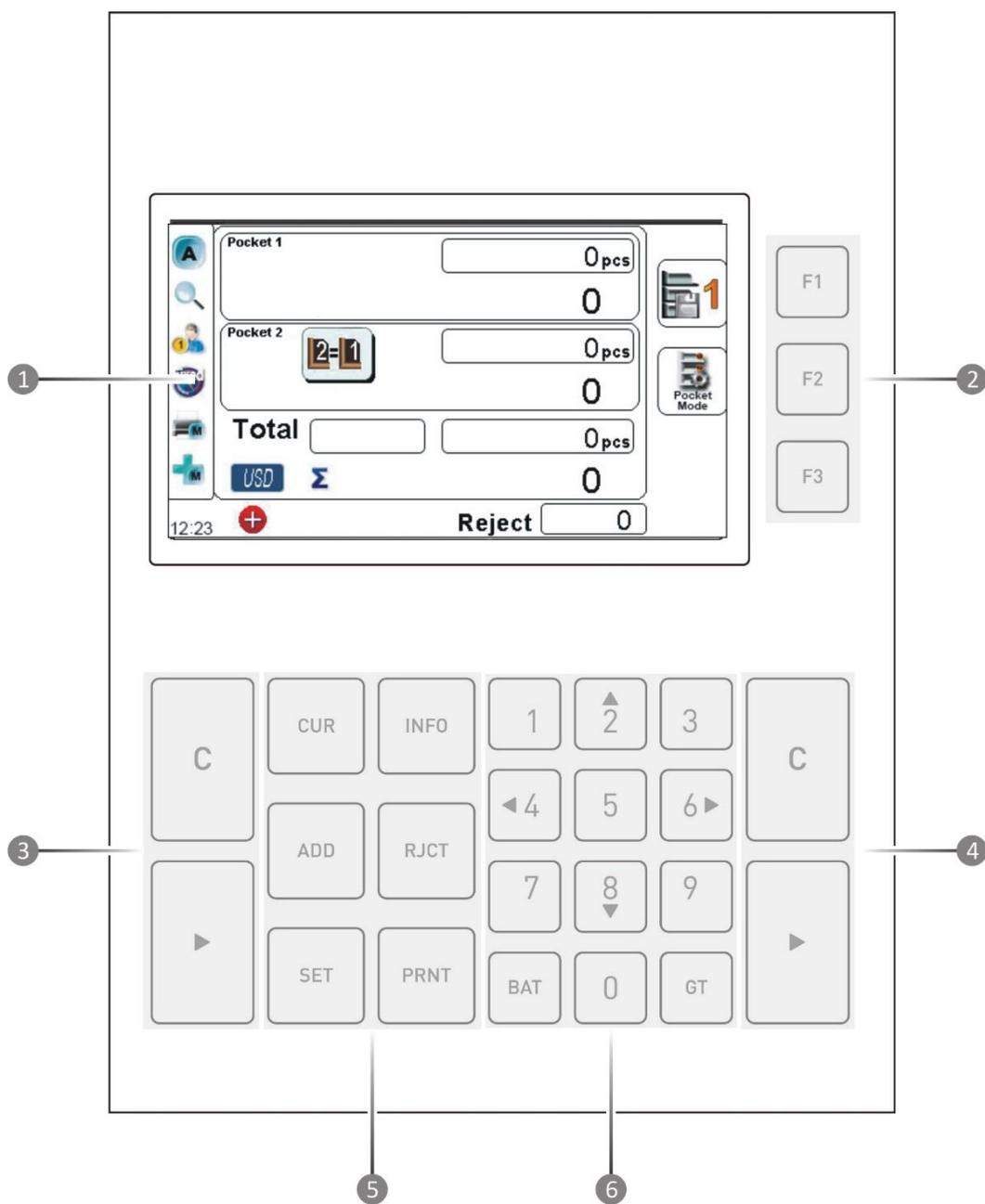


- 1. Hopper
- 2. Start/Clear Button
- 3. Reject Pocket
- 4. Stacker 1
- 5. Stacker 2
- 6. Button to Open Bill Path

- 7. Hopper Guide
- 8. Button to Open Bill Path
- 9. Note Gate Thickness Knob
- 10. PMI Control Panel
- 11. Power Switch
- 12. Power Cord Outlet

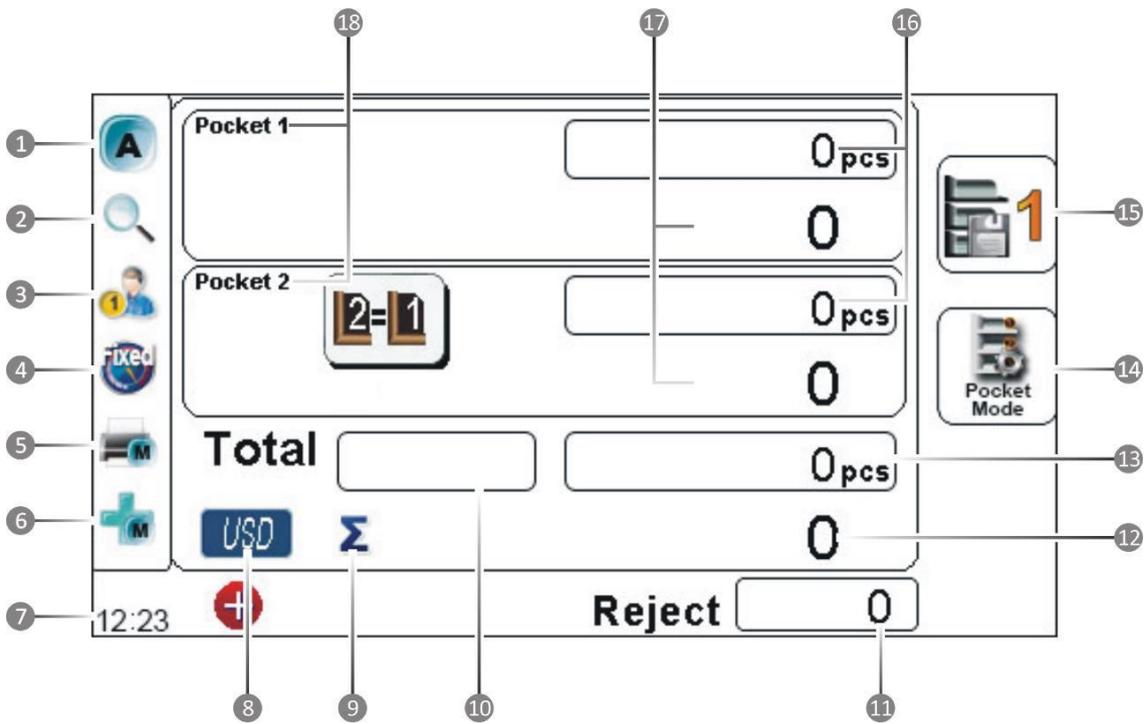
- A. COM2 (RS232 Serial Port)
- B. COM1 (RS232 Serial Port)
- C. SD Card Slot (For Upgrade)
- D. LAN Port
- E. Remote (External Display Port)
- F. PC (PC Suite Connection)
- G. Control Panel

Control Panel



1. 4.3" TFT-LCD Display
2. Navigation Keys (F1, F2, F3)
3. C (Clear) / Start (Enter) (User 1)
4. C (Clear) / Start (Enter) (User 2)
5. Function Keys
6. Numeric / Cursor

Display Screen

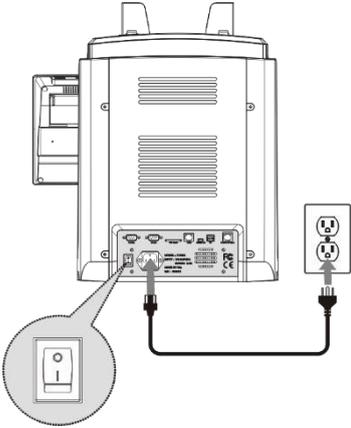


- | | |
|-----------------------------------|---|
| 1. Auto / Manual Icon | 10. Grand Total Pieces of Banknotes |
| 2. Suspect Detection Icon | 11. Number of Rejection |
| 3. User 1 / User2 Icon | 12. Grand Total Denomination in Pocket 1&2 |
| 4. Counting Speed Icon | 13. Grand Total Pcs of Banknotes in All Pockets |
| 5. Auto / Manual Print Indication | 14. Pocket Mode |
| 6. Auto / Manual Add Icon | 15. Counting Mode |
| 7. Current Time | 16. Total Pcs of Banknotes in Pocket 1 & 2 |
| 8. Currency Symbol | 17. Total Denomination in Pocket 1 & 2 |
| 9. Grand Total Symbol | 18. Pocket 1 & 2 Indication |

NC8500-OPERATION

Get Started

Power On/Off



To Power on NC8500

STEP 1

Plug one end of the power cord to the AC power socket located at rear of the machine, and the other end to a standard and properly grounded AC power wall outlet or to a power strip.

STEP 2

Locate the On /Off (I/O) switch at rear-left of the machine and turn the machine On (I).

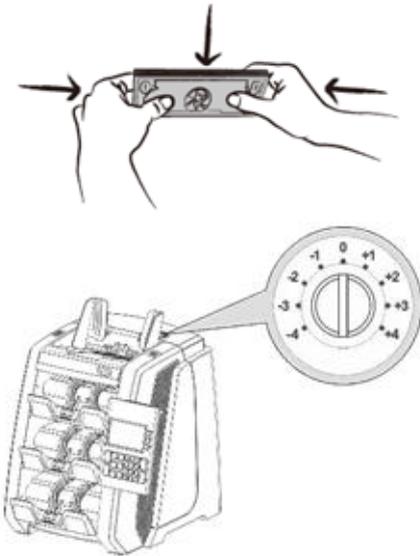
STEP 3

Once the system initialization completes, the LCD display turns to main screen display.

To Power off NC8500

Make sure all counting results are saved prior to powering off. To power off, turn the switch to Off (O).

Preparation



Align all corners and edges of the banknotes prior placing them onto note hopper, as unevenness could cause errors.

Place banknotes at the center of the note hopper and adjust the hopper guides accordingly if needed.

For Circulated Banknotes: Turn dial knob to point at "0" (Default)

For New Banknotes: Turn dial knob counterclockwise

(towards "-")

For Worn-Out Banknotes: Turn dial knob clockwise

(towards "+")

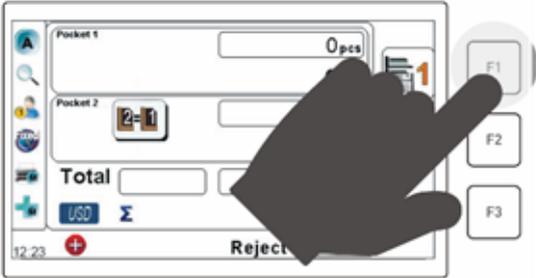
NOTE:

In case of counting casino barcoded tickets alone or with mixture of banknotes, make sure to adjust the feed gap and dial knob position properly after some test and trial, so that the NC8500 does not jammed or damage the barcode print.

Start Counting

Various Counting Modes and settings

NC8500 provides various counting and sorting functions, including counting mixture of banknote denominations, denomination sorting, facing and orientation, Issue, Fitness Sorting (ATM, FED, UNFIT) and reading of Casino Barcoded Ticket decoding feature (optional).



STEP 1

Press the **F1** key on the **Control Panel** to browse between available modes as in sequence illustrated below:



MIX



SORT



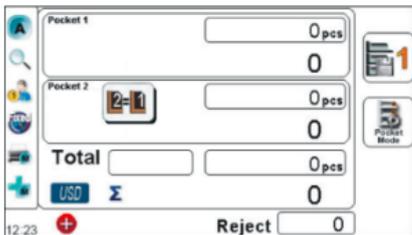
FACE



ORIENT



Customize



NOTE:

The left illustration shows where the current Count & Sort Mode is indicated.

STEP 2

Place banknotes onto the hopper which triggers the sensor and motor, thus NC8500 automatically starts counting (Unless Manual Start mode is set).

STEP 3

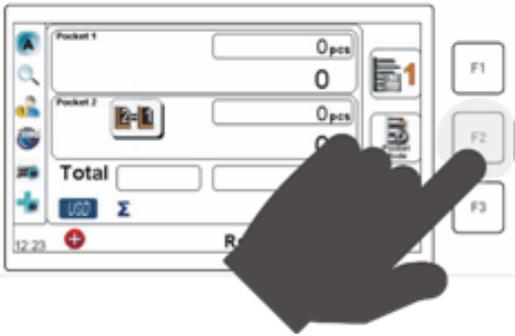
Place banknotes onto the hopper and press Enter key which triggers the sensor and motor, thus NC8500 starts counting.

Definition of Each Counting Mode

 <p>MIX</p>	<p>Mixed Denominations</p> <ul style="list-style-type: none">■ Count and denominate single or mixed denomination of banknotes for individual and total amount.■ If NC8500 fails to denominate or detects a possible suspect (<u>with CF Mode turned ON</u>), the banknote is delivered to the Reject Pocket, along with other types of rejected banknotes or severely worn-out banknotes.■ All counted banknotes are delivered to Stacker 1 and overflow to Stacker 2 once Stacker 1 reaches its maximum capacity (<u>200 pcs unless set to lower</u>)
 <p>SORT</p>	<p>Denomination Sorting</p> <ul style="list-style-type: none">■ Sort banknotes by denomination. The first detected genuine banknote delivers to Stacker 1, second detected banknote delivers to Stacker 2 while other denominations and suspicious banknotes deliver to the Reject Pocket.■ This mode can be set to sort a single denomination of banknotes by Face-up / Face-down and are delivered to appropriate Stackers.
 <p>FACE</p>	<p>Face Sorting</p> <ul style="list-style-type: none">■ Sort a single denomination of banknotes by Face-up / Face-down and delivers the first detected side of banknotes to Stacker 1, the others to Stacker 2.■ Any other denomination of banknotes mixed in the stack and delivered to Reject Pocket, along with all suspicious or damaged banknotes.
 <p>ORIENT</p>	<p>Orientation Sorting</p> <ul style="list-style-type: none">■ To sort two directions of a single denomination of banknotes that are already face-sorted. As such, the first detected direction of banknotes is delivered to Stacker 1 and the others deliver to Stacker 2.■ Any other denomination of banknotes mixed in the stack and delivered to Reject Pocket, along with all suspicious or damaged banknotes.
 <p>Customize</p>	<p>Customize</p> <ul style="list-style-type: none">■ Count and denominate single or mixed denomination of banknotes for individual and total amount.■ Under Customize mode, user can set conditions for each pocket manually.

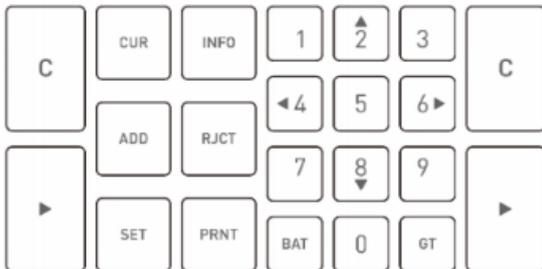
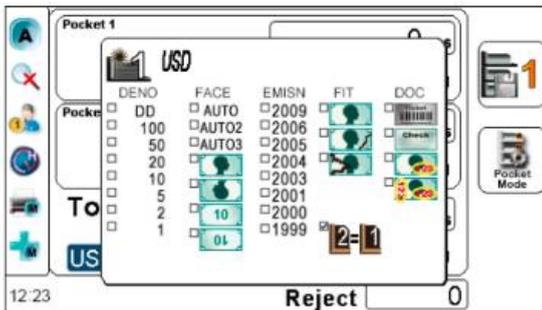
User's Counting and Pocket Mode Settings

WARNING: Only authorized service professional and trained users are allowed to change factory's default **"Counting Modes"** setting with **"Pocket Mode"** to ensure **"Count & Sort Modes"** fully customized to users' operation and preferences.



STEP 1

Press the **F2** key on the PMI, the **"Pocket Mode"** menu is shown. Follow the instructions below to make desired selection.



STEP 2

Select Stacker Pockets

Press either **4/ ◀** or **6/ ▶** to select from Stacker Pocket 1 or 2 and press **▶ Enter** or **5** to save setting.

Select Currency

Press either **4/ ◀** or **6/ ▶** to select a currency, and press **▶ Enter** or **5** to save setting.

Select Counting Modes

Press **4/ ◀** or **6/ ▶** to select a sorting mode and press **▶ Enter** or **5** to save setting.

Options to Counting Modes

Press **2/ ▲** or **8/ ▼** to select an option, press **▶ Enter** or **5** to save setting.

Once selection process for Pocket 1 is completed and saved, continue with setting up Pocket 2 if it is desired. Continue press **C** until return to main screen whereas all settings are saved automatically.

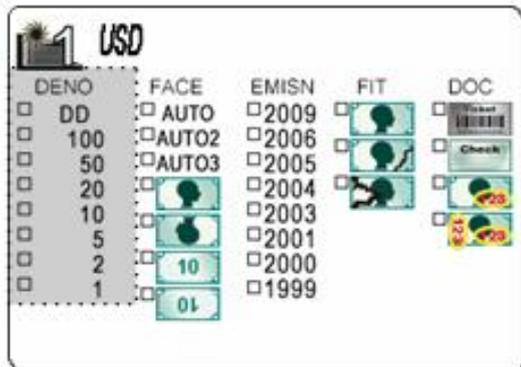
Various options under each Pocket Modes:

a. SORT Mode

NC8500 delivers banknotes with all other denominations mixed in the stack along with unrecognized banknotes and suspicious banknotes to the Reject Pocket.

None Box checked: (Mixed banknotes)

If none of the denominations are checked under SORT mode (mixture of banknotes), NC8500 counts all banknotes (Mixture) and delivers to Stacker 1 Pocket and overflow to Stacker 2 when Stacker 1 reaches its maximum capacity as set.



DD: Denomination Detection.

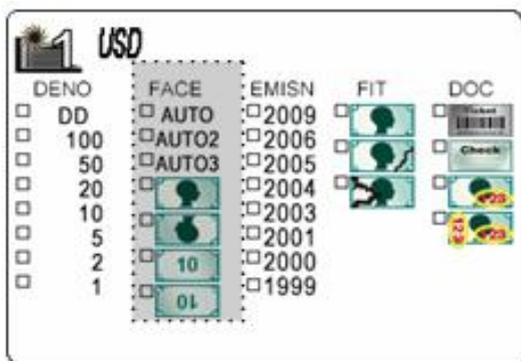
DD option can be checked for one of the Pocket (1 or 2) or both Pockets and NC8500 counts banknotes with the first detected authentic banknote as standard and delivers to Stacker 1 and 2 if both Pockets are chosen.

100/50/20/...

User can select denomination of banknotes to be counted for each Stackers and NC8500 delivers selected denominations to Stacker 1 and Stacker 2 pocket. Under this operating mode, only one denomination can be selected for each of the Stacker pockets.

b. F- O (FACE - ORIENT)

If both Front-faces are checked for Stacker 1 and both Observe-faces are checked for Stacker 2, NC8500 counts and delivers mixed denomination banknotes having Face-up to Stacker Pocket 1 and deliver banknotes having Obverse-faces to Stacker 2.



[Front]



[Front Reversed]



[Obverse]



[Obverse Reversed]

Pocket 1



[Pocket 1]

Both front face direction.

Pocket 2

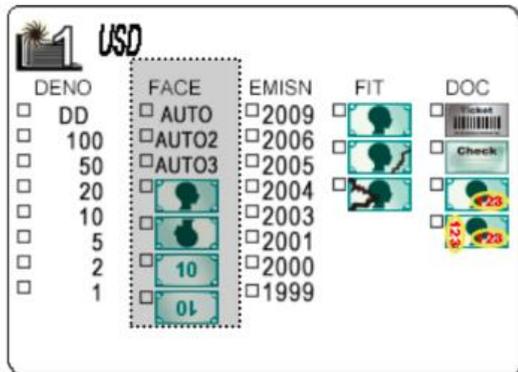


[Pocket 2]

Both obverse face direction.

c. ORIENT (O)

If mixed denomination banknotes are all faced-up, users can choose to orient them (Face-up and in one direction) using this option. If the options below are selected, NC8500 delivers banknotes with Front-face to Stacker 1 and Front - Reversed banknotes to Stacker 2 while unrecognized and suspicious notes delivers to the Reject Pocket.



[Front]



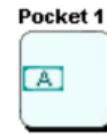
[Front Reversed]



[Obverse]



[Obverse Reversed]



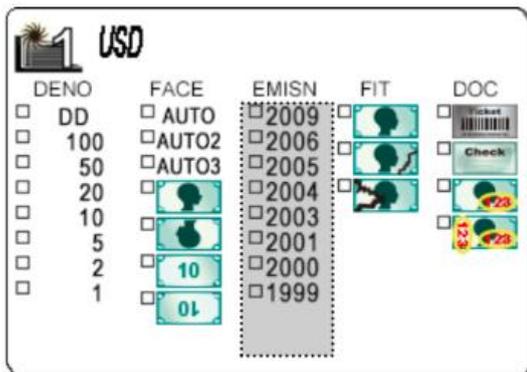
[Pocket 1]
Front face
direction.



[Pocket 2]
Front-Reverse
direction.

d. EMISN

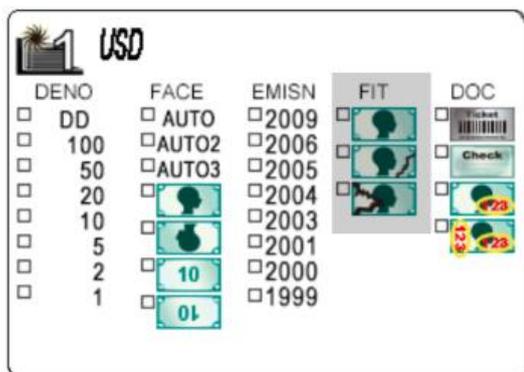
NC8500 is able to separate different issuing year for a single denomination banknotes. If this option is selected, NC8500 delivers banknotes with specified issue year of a single denomination banknote to **Stacker 1** and all other issue year of that denomination or other denominations to **Reject Pocket** along with suspect or non-recognizable banknotes. **Stacker 2** is only used as an over-flow pocket for that denomination and issue selected.



Only one issue of a single denomination banknote can be selected for **Stacker 1** or select **AUTO** to automatically detect the issue year of the first counted banknote.

e. FIT (Fitness Sorting)

With FIT Sorting, the NC8500 sort banknotes according to different usage and fitness quality.



ATM:

Separates ATM quality banknotes from FIT or UNFIT banknotes as required by financial institutions for their daily ATM cash replenishment need.

FIT:

Separates banknotes according to fitness sorting guideline set by Federal Reserve bank (FRB) as part of their currency recirculation policy apply to dirty (soil), tape, holes, tears, missing or folded conditions of banknotes.



ATM: banknotes sorted to stacker.



FIT: banknotes sorted to stacker.



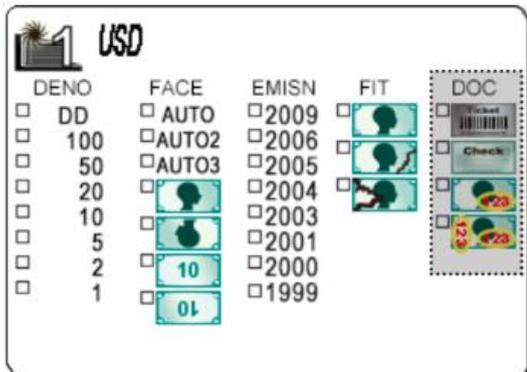
UNFIT: banknotes are sorted to stacker.

See Federal Reserve Bank Fitness Sorting guideline posted on FRB website:

https://www.frb-services.org/files/operations/pdf/FRB_fitness_guidelines_2008_dec_11.pdf

f. DOC (Document-Optional features)

NC8500 is capable of counting and separating banknotes and casino TITO into two Stackers. Once barcodes are decoded, NC8500 sends decoded information to a connected external printer or to a PC software if a PC Software is developed and interfaced with NC8500 by respective software developer or by MASTERWORK AUTOMODULES.

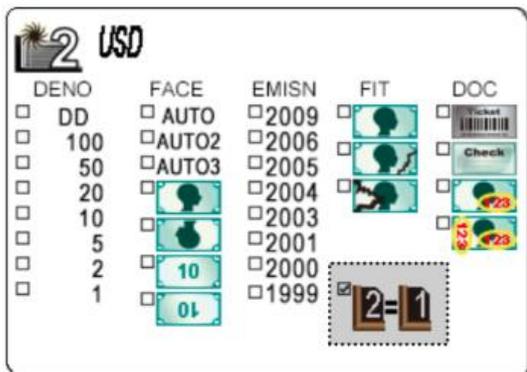


To Separate banknotes and casino TITO, select:
 Pocket 1 = leave all unchecked under SORT option
 Pocket 2 = Check  under **DOC**



: TITO (Decoding barcodes)

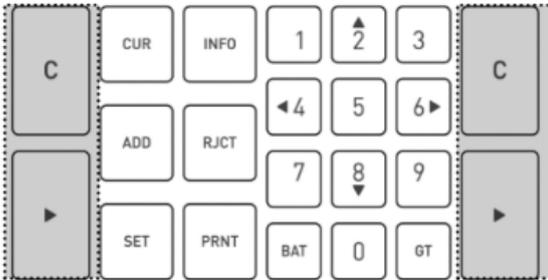
g. 2=1



- Apply setting of Stacker 1 to Stacker 2 (overflow).
- For SORT mode, if both Stackers are set as DD, 2 different denominations are separated to Stacker 1 and 2, and the rest denomination banknotes to Reject Pocket. But if Stacker 1 is set as DD while Stacker 2 is set as **2=1**, only 1 denomination is counted and when Stacker 1 reaches its maximum capacity, banknotes are overflowed to Stacker 2.

Dual Users Operation

NC8500 Currency Sorter supports two individual counting operations and the counting results for two tellers or cashiers can be saved separately. NC8500 can also print counting results of the two users using one or two separate printers if connected. Dual user's features can also be used to just keep two separate settings in one machine for user's convenience. Please note that dual user function is set off as default.



Two sets of **C** and **▶** keys featured for dual user operation.

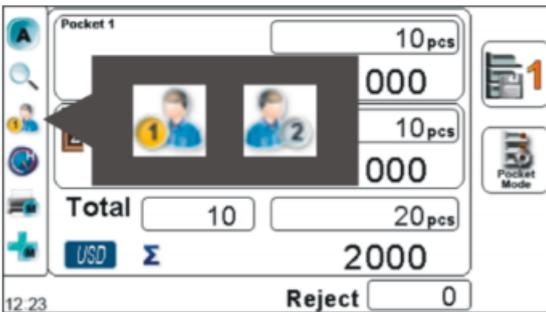
Left Side: User 1

- Press **▶** on the left of the panel to switch to User 1.
- To confirm and/or cancel all banknote processing functions, user **C** and **▶** located on the left side of the panel only. *Caution! DO NOT use buttons on the right.*

Right Side: User 2

- Press **▶** Enter on the right side of the panel to select User 2.
- To confirm and/or cancel all banknote processing functions, user **C** and **▶** on the right side of the panel ONLY. *Caution! Do not use buttons on the left.*

To clear the counting results: Press **C** of the respective current user to clear each of the counting results.

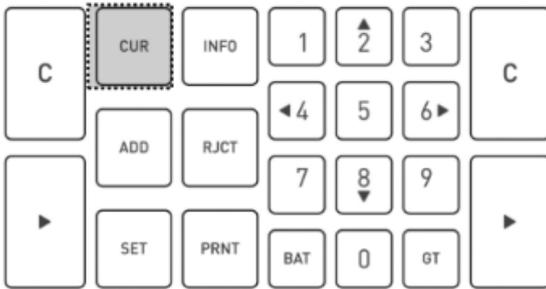


For User 1 and User 2, all functions of banknote processing are kept separately. Two users can operate NC8500 with their individual preferences. The counting results and settings of counting modes do not interfere with each other while in operation.

NOTE: Dual user operation is only for counting modes. It does not apply to general settings under the Setting Menu.

Selecting Currency, CNT Mode and Density

If multiple currencies software are preset and loaded to NC8500 by factory (optional feature), select one of the factory preset currencies of the choice by following the below steps:



CUR button is to select a currency or select **CNT**.

All available currencies loaded and CNT (Count Mode) are cycled through on the bottom left of the LCD display.

1. Selecting Currency - Press **CUR** button to make the section.

All available currencies loaded to the machine and CNT mode are cycled through and shown on screen one by one.

Use direction keys 2 ▲ / 8 ▼ or the 4 ◀ / 6 ▶ to highlight the desire currency (if multi-currencies are loaded)

Press ▶ to confirm the selection.
Start counting banknotes.

2. CNT - Count Mode (Piece counting)

To count banknotes without detecting value and suspects banknotes.

The current counted banknotes are shown on top row, and total quantity is summed up automatically on the below row (if ADD is on).

3. DENSITY Selection (CNT Mode only)

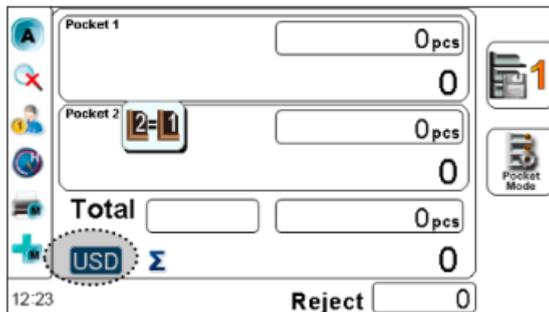
NC8500 allows user to select different density level for double and size detection purposes based on the first banknote passed through the sensor. Press **F2** to switch to different strictness level of acceptance of banknotes counted. The higher the level is, the lower tolerance for banknotes of poor quality is



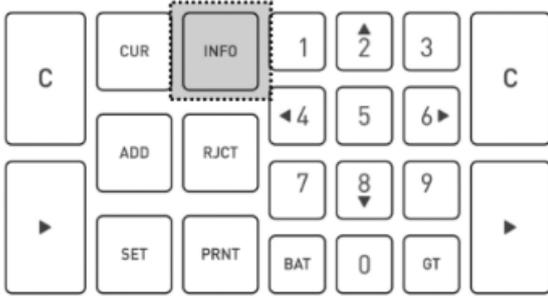
: **Loose**



: **Normal (Default)**



Counting Information



When counting is completed, press **INFO** to see the detailed information of current transaction by each denomination.

100x	5=	500	
50x	5=	250	
20x	5=	100	
10x	5=	50	
5x	5=	25	
1x	5=	5	
Total			30
USD		Σ	930
Reject			0

12:23

1. INFO Mode

- The detailed counting result is displayed each denomination quantity and value, current and Total of accepted banknotes and Reject banknotes.
- If the current page is not enough to display all the counted denominations, please use the 2 ▲ / 8 ▼ keys to change to next page.

Pocket 1		0 pcs	
Pocket 2	2=1	0 pcs	
Total			0 pcs
USD		Σ	0
Reject			0

12:23

2. Print and Save

- Press **PRINT** key on Control Panel Unit to enter into PRINT screen. Press **F1 List** to print detail break-down results to an externally connected printer or **F2 Total** to print summary of each count or simply press  to save counting results to Grand Total (Saving to Grand Total is only effective when the counted banknotes are still in the pocket).

Grand Total		
USD	1x	55= 55
	2x	100= 200
	5x	500= 2500
	10x	500= 5000
	20x	500= 10000
	50x	500= 25000
	100x	500= 50000
	200x	500= 50000
Σ		2655pcs 18620

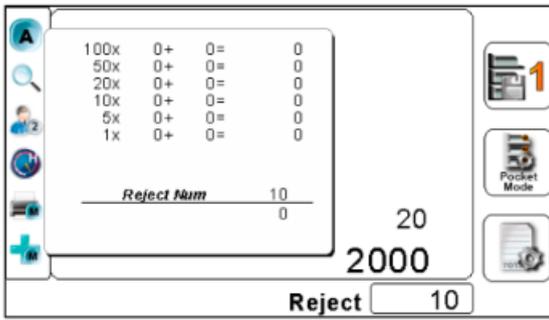
3. Grand Total

- It is only available when ADD mode is activated.
- All confirmed transactions are accumulated into Grand Total list.
- Press **GT** to see Grand Total list of different counted currencies.

Day Total		
28. Apr. 2013		
USD	1x	55= 55
	2x	100= 200
	5x	500= 2500
	10x	500= 5000
	20x	500= 10000
	50x	500= 25000
	100x	500= 50000
	200x	500= 50000
Σ		2655pcs 18620

4. Day Total (Daily Results)

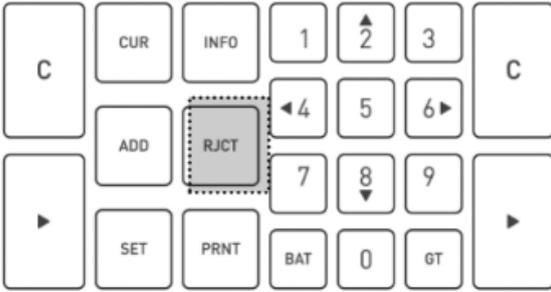
- Day Total is only available when ADD mode is activated.
- All confirmed transactions for a single day are accumulated into Day Total list.
- Press **GT** twice to see Daily Results (Day Total) of all confirmed counts for that day.
- All the counted results within 30 days are also saved into machine's memory. Press 2 ▲ / 8 ▼ to view the Day Total counting info from different dates.



5. Manual Entry

While under INFO screen, bring up the **Manual Entry** menu with **F3** where users are able to manually modify rejected banknotes Q'ty and value that may be fit for circulation under Fitness modes or simply genuine banknotes that sensor couldn't read. **Manual Entry** of each denomination appears on Print receipt under Manual Entry or under Fitness Mode.

Reject Reasons



When a count is completed, press **RJCT** key to see the detailed information of the reject reasons of all rejected banknotes delivered to Reject Pocket.

Reject Reasons	
0 Double	0 Skew
0 Chain	0 Note Gate
0 Soiling	0 Dog Ears
0 Stains.	0 Holes
0 Tape	0 Tears
0 IR Error	0 UV Error
0 MG Error	0 IMG Error
0 Denomination	0 SN Error
0 Other Errors	Σ 0

Reject Reasons #1

On this screen, user can view the number of rejected banknotes appear next to each category of Reject Reasons.

Total of rejected banknotes is showed on the bottom right of the LCD display as Σ.

Definition of Reject Reasons

Double or Suspect	Double or soiled banknotes sensor could not read or simply suspect.
Chain	Chain of banknotes in the bill path causing jam.
Soiling	Soiled banknote (<u>Unfit</u>) unable to read.
Stains	Stains on banknote (<u>Unfit</u>).
Tape	Tape found on the banknote (<u>Unfit</u>).
IR Error	Infrared suspect Error (<u>Suspicious banknote</u>).
MG Error	Magnetic suspect error (<u>Suspicious banknote</u>).
Unknown Doc	An unknown image (<u>Unrecognizable</u>).
Denomination	Other type of errors (<u>Other types of bill recognition errors that are not defined above</u>)
Skew	A banknote is skewed during transportation.
Note Gate	The gap between two notes is too close causing jam error.
Dog Ears	Missing corner banknote/folded too much that sensor is unable to read.
Holes	Large hole on banknote (<u>Unfit</u>).
Tears	Torn banknote (<u>Unfit</u>).
UV Error	Ultraviolet suspect Error (<u>Suspicious banknote</u>).
IMG Error	Image Suspect error (<u>Suspicious banknote</u>).
SN Error	Banknote serial number recognition error.
Other Errors	Other types of bill recognition errors that are not defined above.

Bill to Bill Reject Reasons (it is available in the future)

NC8500 features bill to bill reject reason review, which allows user to be able to review reject reasons of each rejected bills individually.

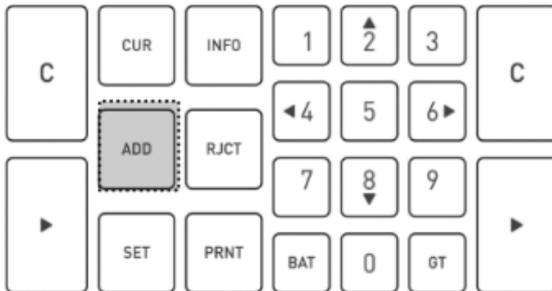
Once a count is completed and reject notes are found in the Reject Pocket.

Reject Reasons		
	No	Reject Reason
D	0001	Unknown Dec.
C	0002	Unknown Dec.
S	0003	Unknown Dec.
S	0004	Unknown Dec.
T	0005	Unknown Dec.
T	0006	Unknown Dec.
IF	0007	Unknown Dec.
M	0008	Unknown Dec.
M	0009	Unknown Dec.
D	0010	Unknown Dec.
Other Errors		
		Σ 14

Press **RJCT** to enter “**Reject Reasons**” display, followed by **▶**. A screen with numbers and reject reason is shown. The number is corresponding to those banknotes in the Reject Pocket, counted from the bottom of the stack, i.e the first banknote from the bottom is numbered as “0001” and reject reason is displayed next to that number.

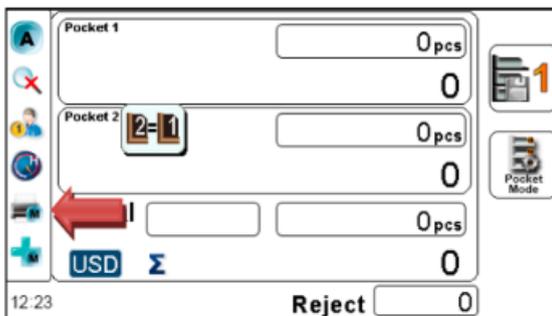
Add mode

The Add mode accumulates quantity and amount of each running total to Grand Total and Day Total (Daily results), thereby saves counting results into device memory.



1. Press **ADD** to toggle between Add On / Off mode.

When Add mode is turned on, an icon \oplus is shown on the bottom left of the LCD display.



2. Current counting results display under each Pockets and accumulated quantity and total amount display under Total row.

3. Press **PRNT** to enter into screen where counting results can be confirmed, print and save to Grand Total and Day Total. Without accessing this screen and selection, Total count from previous screen is not added to Grand Total and Day-Total.

4. Under Print screen, press  / **F1** or **F2** key to confirm the transaction and print counting results to an external printer.

5. Press  / **F3** to save the counting results to Grand total and Day Total memory. Please do not remove the banknotes in stackers before the results are saved.

Grand Total

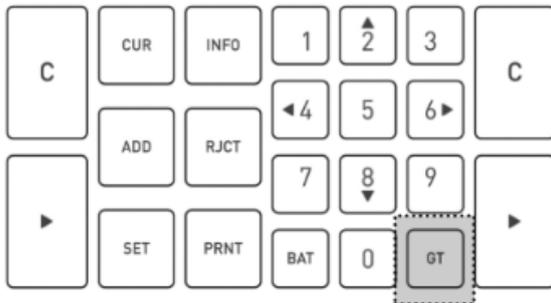
Grand Total (GT) feature is to save accumulated different counting results to the memory and display to users when GT is selected. To save a transaction to Grand Total, it can be achieved by two ways. For example,



(Auto Add Mode): NC8500 device adds currency counting result to Grand Total automatically once counting is completed and banknotes are removed from the stacker.



(Manual Add Mode): Under Manual Add Mode, Grand Total has to be added manually by users for each count.



1. After counting and saved the counting to Grand Total as explained above, press **GT** to view Grand total saved in the memory.

Grand Total			
USD	1x	55=	55
	2x	100=	200
	5x	500=	2500
	10x	500=	5000
	20x	500=	10000
	50x	500=	25000
	100x	500=	50000
	200x	500=	50000
Σ	2655pcs		18620

2. The current transaction is accumulated to Grand Total as illustrated on the diagram screen.

Grand Total			
USD	1x	55=	55
	2x	100=	200
	5x	500=	2500
	10x	500=	5000
	20x	500=	10000
	50x	500=	25000
	100x	500=	50000
	200x	500=	50000
Σ	2655pcs		18620

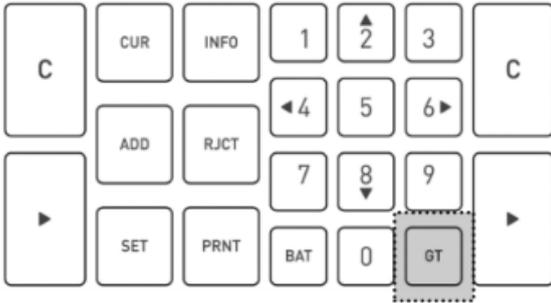
3. Press **PRINT** again to enter into the print mode, and different options are provided for selection.

- **F1:** Print current transaction.
- **F2:** Delete the record.
- **F3:** Exit the print mode.

Make the proper selection and return to main screen.

Day Total

The Day Total feature is to view and print out all confirmed counting results for the current day or a particular day up to past 30 days. To sum up total count for a given day, please refer to the following description.



1. At the end of the day, press **GT** twice to enter Day Total screen.

Day Total		28. Apr. 2013
USD	1x	55= 55
	2x	100= 200
	5x	500= 2500
	10x	500= 5000
	20x	500= 10000
	50x	500= 25000
	100x	500= 50000
	200x	500= 50000
Σ		2655pcs 18620

2. All the confirmed transactions of a day are listed on the display.

Use 4 ◀ / 6 ▶ to change to the Day Total counting information for different dates.

Day Total		28. Apr. 2013
USD	1x	55= 55
	2x	100= 200
	5x	500= 2500
	10x	500= 5000
	20x	500= 10000
	50x	500= 25000
	100x	500= 50000
	200x	500= 50000
Σ		2655pcs 18620

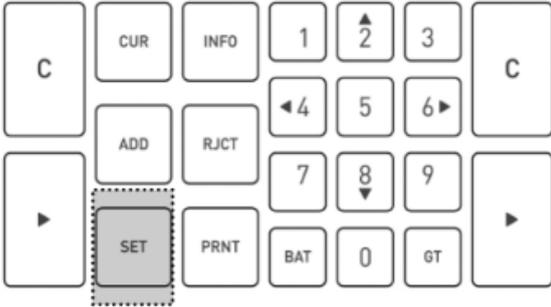
Print All The Days : 1
 Print One Day : 2
 Clear One Day : 3
 Clear All The Days : 4
 Exit : C

Press **PRNT** to enter printing mode to print out day total receipt whether for all days or for a single day.

- **F2**: Print All Day.
- **PRNT**: Print One Day.
- **F3**: Exit

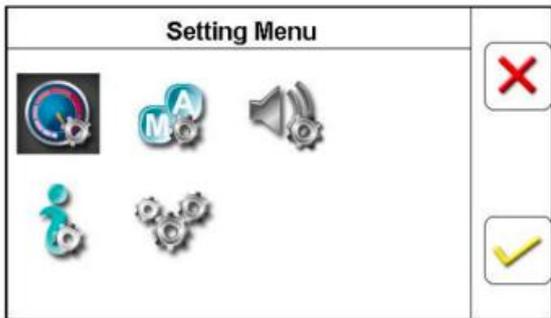
Auto / Manual Add, Auto Print and Start Mode

Through Setting Menu, operators can choose to operate NC8500 automatically or manually for various features, such as starting of the machine operation, accumulation after counting is completed or printing of count results.

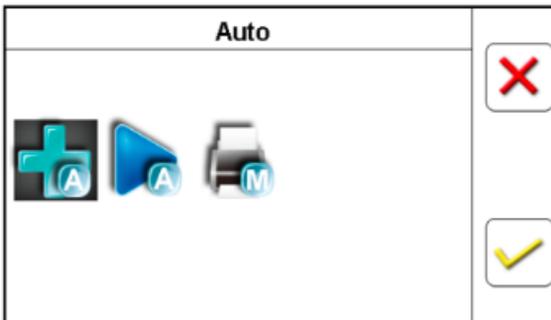


1. Press SET to enter Setting Menu, use 4 ◀ / 6 ▶ and 2 ▲ / 8 ▼ to switch to different function.

Press ✓ to choose Auto or Manual, press ▶ or 5 to confirm the selection.



2. Select  by using 4 ◀ / 6 ▶ or 2 ▲ / 8 ▼ to enter Auto/Manual setting mode as described below.

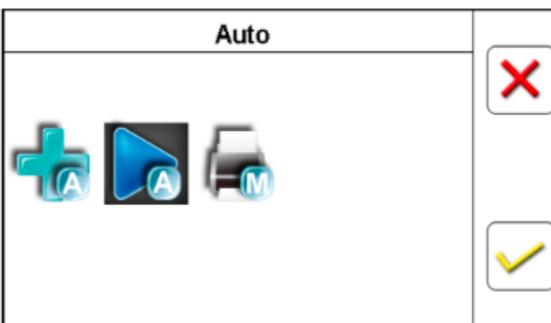


 (Auto Add)

Machine adds the currency counting result to Grand Total automatically once a counting is completed and banknotes are removed from the stacker.

 (Manual Add)

Grand total has to be added manually for each count.

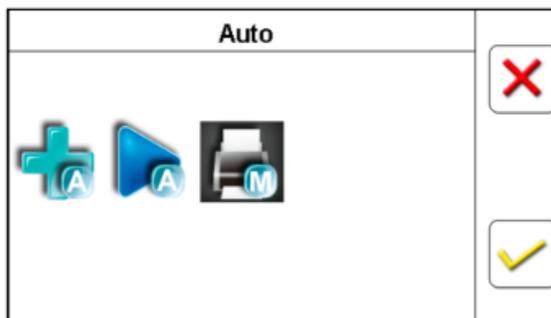


 (Auto Start)

Machine automatically feeds banknotes in the hopper and starts counting.

 (Manual Start)

Machine only feeds banknotes in the hopper and starts counting after user's confirmation.



 (Auto Print)

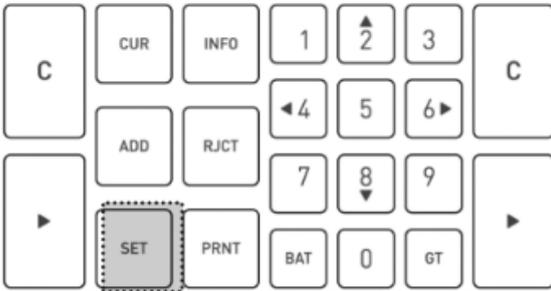
Automatically prints current result to a printer (if connected) once counting is completed and banknotes are removed from the stacker.

 (Manual Print)

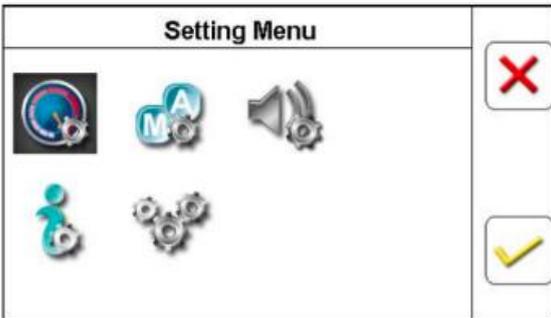
Operator needs to press PRNT button to enter the Print menu to print the results.

Counting Speed (CNT Mode only)

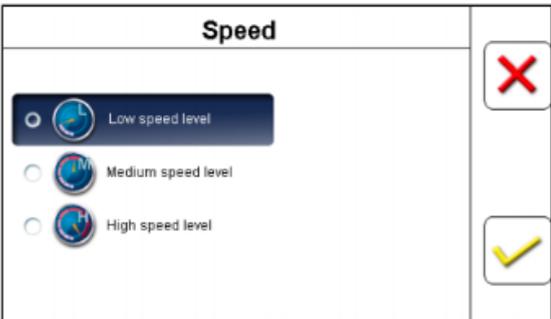
NC8500 is configured to count circulated banknotes **CNT** mode quantity at high-speed from default factory setting. However, software allows users to adjust counting speed to count banknotes at lower speed if necessary. Note that, speed is fixed from factory in all discriminating and sorting modes and cannot be changed by users.



1. Press **SET** to enter Setting Menu.



2. Select Speed setting icon  to enter Speed setting menu.



3. Under Speed setting Menu, choose one of the three speed settings from Low, Medium or High speed level as below:



Low speed level: 600 notes / minutes.

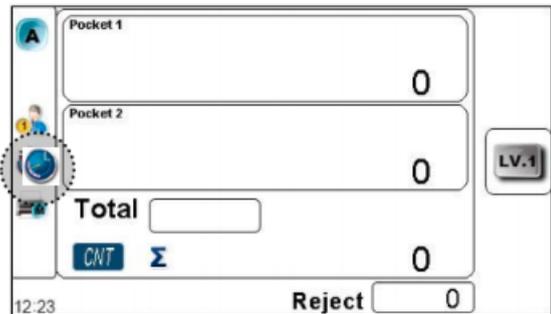


Medium speed level: 900 notes / minutes.



High speed level: 1000 notes / minutes.

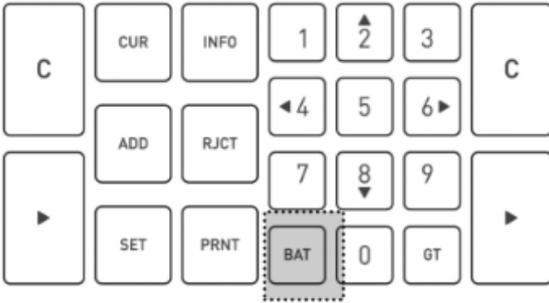
Use 2 ▲ / 8 ▼ to scroll between three levels, and confirm selection by pressing **F3 / ✓**.



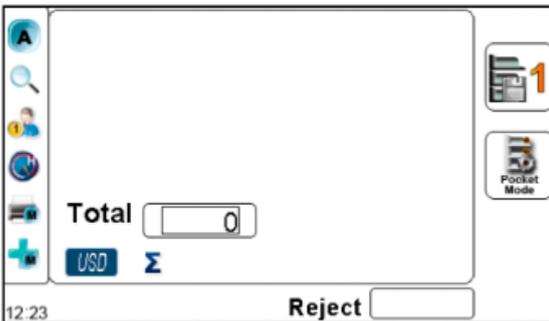
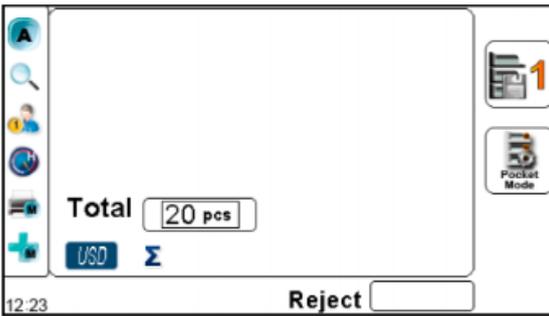
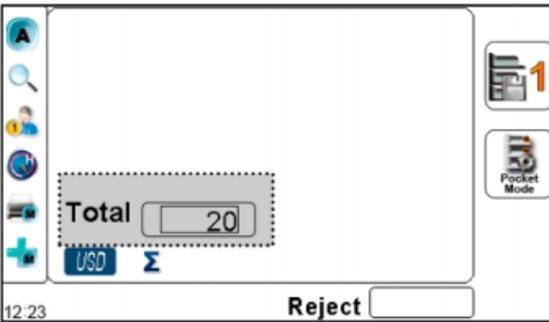
5. The selected speed is shown on the left of the taskbar.

Batch Counting

NC8500 allows users to set counting of banknotes by a preset batch number by quantity apply to all counting modes or fixed strap or by a specific amount applies to all discriminating counting modes.



1. Press **BAT** to activate batch function.
A batched number by pieces (1-999) or preset (5, 10, 20, 25, 50 and 100) can be set using this batch function as described below in details.
2. Enter a desired quantity or amount by pressing the numeric keys. (0-9)
3. Always press **▶** to confirm, save the setting and return to the main screen.
4. The preset batch quantity or amount is shown on the bottom-left of the display.
5. When a batch number is set, the device counts up to the preset number and stops once the preset batch quantity is reached.
6. Remove all banknotes from stacker to continue the batch count or insert more banknotes if incomplete batch.

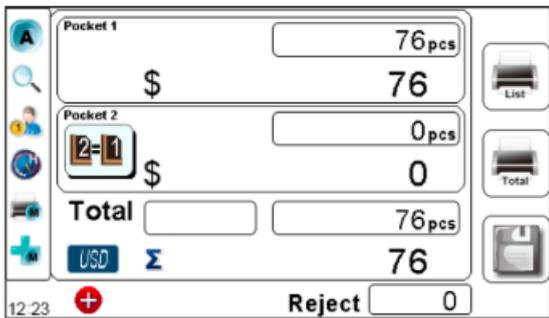
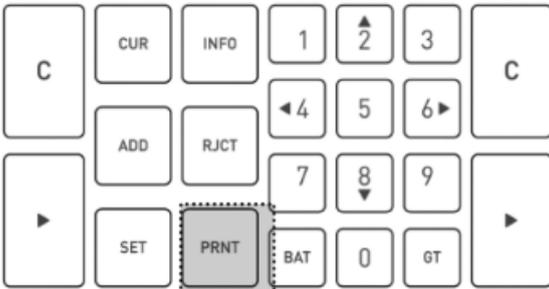


Cancel the batch:

1. Press **BAT** to enter batch setting mode.
2. Press **BAT** or **C** to clear the preset number or amount until it shows 0.
3. Press **▶** to confirm the setting and return to main screen.
4. The batch is now cancelled.

Printing Function

Users can print counting results by connecting to single or dual printers (Dot matrix or thermal printers) via serial ports located at the rear side of NC8500. Contact us for a list of Printers that are approved by MASTERWORK AUTOMODULES for NC8500 device.



1. Connect printers with Serial COM Ports at the rear side of NC8500 with serial cables. If Dual Users feature is activated and device is used by two users, both users can also print their individual reports using one single printer.

- The right is for User 2. (COM2)
- The left is for User 1. (COM1)
- Both Users can also share one printer connected to COM1 port (set in setting menu.)

2. Press **PRNT** to print out counting result after a count is completed unless **“Auto Print”** function is activated in which printer automatically prints report as soon as banknotes are removed from Stacker Pockets where banknotes are delivered into.

3. Follow the message on the display to proceed.

-  : Print receipt of breakdown of all denominations.
-  : Print receipt of total amount.
-  / ► : Save to Grand Total (Saving to Grand
- Total is only effective when the counted banknotes are still in the pocket)..
- Press **C** to cancel the operation.

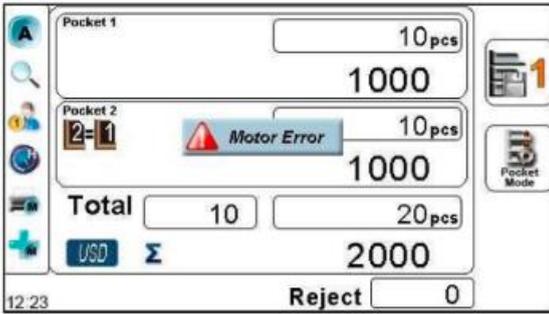
4. Printing receipt.

The print receipt lists the **“Print Title”**, **“Machine Serial Number”**, **“Currency Name”**, **“Quantity by Denominations”**, **“Subtotal”** and **“Total Quantity and Amount”**.

(Format of Print receipt is subject to change without notice)

Error Messages

If the bill path is accessed and opened at any time, an error message is shown on the display.

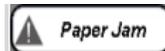


1. Press **C** to clear "**Motor Error**" error message.
2. The motor runs, and all the foreign matters in the bill path are delivered to reject pocket.
3. Run the machine again to continue counting.

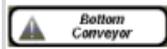
Error Messages Description



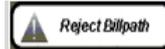
Open the bill path safely and check, make sure there's no foreign objects inside.



Open the bill path safely and remove any jammed banknote.



Bill path is opened, close it before operating the device.



Remove banknotes from Reject Pocket. After removing them, the operation continues.



Remove banknotes from hopper and place them again.



Remove banknotes from Stacker 1. After removing them, the operation continues.



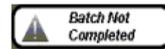
Reject Pocket is full, remove banknotes from Reject Pocket to resume.



Remove banknotes from the Stacker 2. After removing them, the operation continues.



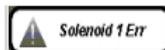
Stacker 1 is full. Remove banknotes from Stacker 1.



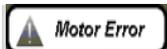
The counted quantity didn't reach preset batch. Please check again.



Stacker 2 is full. Remove banknotes from Stacker 2.



Please check if there is any note jammed in the bottom bill path.



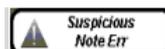
Check if the motor error occurs when powered on. Make sure the encoder is working correctly. If the error still occurs, contact the service provider.



Please remove jammed note safely and test again.



The memory buffer for serial# recognition is 500 pieces. Press **C** to clear the record of serial#.



There are banknotes being rejected due to lack of security features.

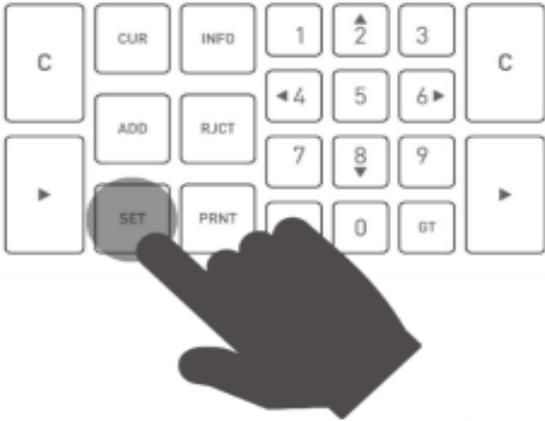
After removing notes from the stacker, the device resumes counting operation.

NC8500-SETTING MENU

Configure NC8500 Setting Menu under various categories as listed below:

-  Counting Speed
-  Auto/Manual Options
-  Sound
-  Information
-  Configuration

Counting Speed (Only Applied to CNT-Piece Count Mode)



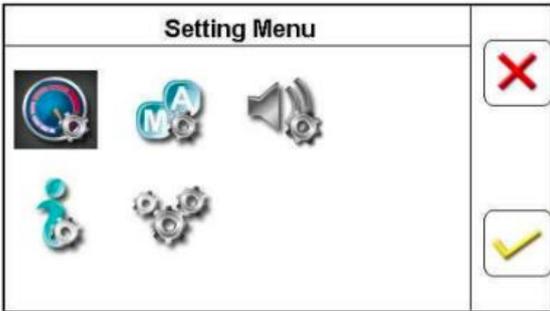
STEP 1

Enter Setting Menu by pressing **SET** key.

STEP 2

Select **Counting Speed** with cursor key

2 ▲ / 8 ▼ or 4 ◀ / 6 ▶



STEP 3

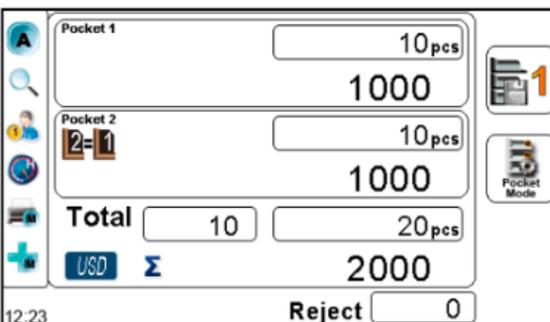
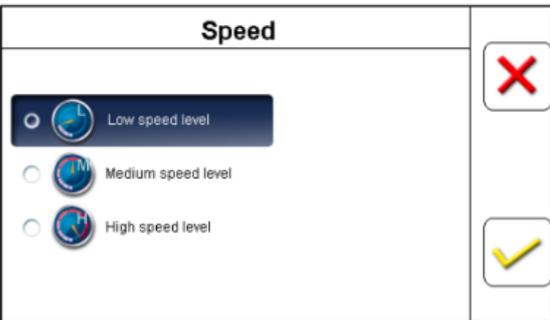
Press ▶ Enter to confirm and ensure if having the **Counting Speed** icon highlighted.

Otherwise press **C** to return to previous menu There are 3 speeds configurable:

-  **Low:** 600 Notes/Min.
-  **Medium:** 900 Notes/Min.
-  **High:** 1000 Notes/Min.

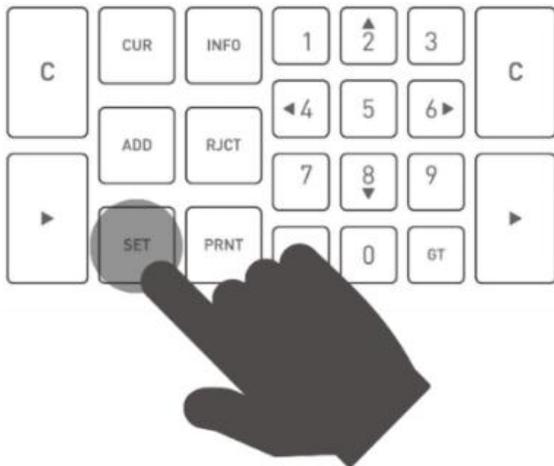
Use 2 ▲ / 8 ▼ to highlight the speed level and confirm with ▶ Enter key.

The speed status is displayed at the taskbar of main screen.



Auto/Manual Options

There are several features available under Auto/Manual setting options as described below.



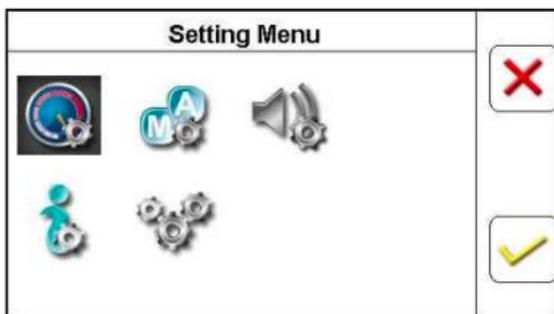
STEP 1

Enter Setting Menu by pressing **SET** key.

STEP 2

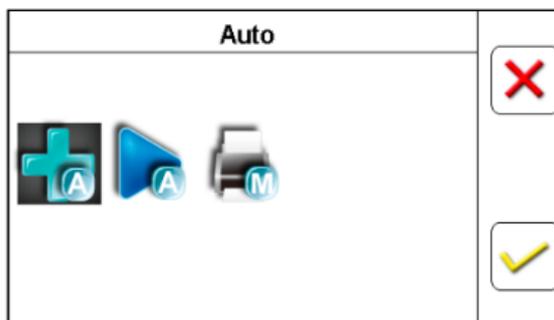
Select **Auto/Manual** with cursor.

2 ▲ / 8 ▼ or 4 ◀ / 6 ▶



STEP 3

Press to confirm if the **Auto/Manual** icon is highlighted. Otherwise press **C** to return to previous menu. There are 3 features configurable under **Auto/Manual**.



STEP 4

Press **F3** to choose Auto or Manual, press ▶ or 5 to confirm the selection.



Auto Add

Adds the currency counting result to Grand Total automatically once a counting is completed and banknotes are removed from stacker.



Manual Add

Grand total has to be added manually for each count.



Auto Start

Automatically feeds banknotes in the hopper and starts counting



Manual Start

Only feeds banknotes in the hopper and start counting after pressing the start button



Auto Print

Prints current result to a printer (if connected) once counting is completed and banknotes are removed from stacker.

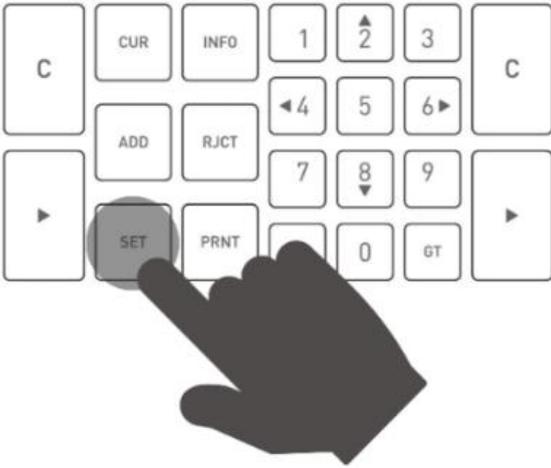


Manual Print

Operators need to press **PRNT** key to enter the **Print** menu to print the results.

Sound Settings

NC8500 featured various sound settings including warning alarm, key tones and suspicious banknote alarm. These sounds can be turned **ON / OFF** with steps below: By default, all the alarm sounds are set as ON.



STEP 1

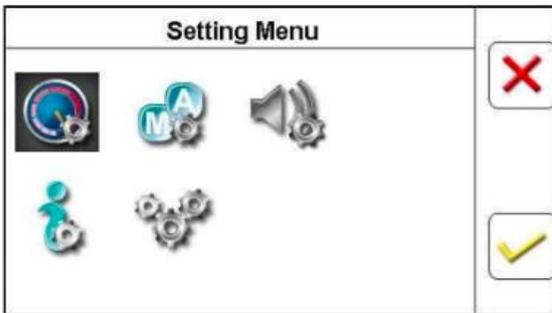
Enter Setting Menu with **SET** key.

STEP 2

Select **Sound Setting** with cursor.
2 ▲ / 8 ▼ or 4 ◀ / 6 ▶

STEP 3

Press ▶ to confirm if the **Sound Setting** icon is highlighted. Otherwise press **C** to return to previous menu. There are 3 features configurable under **Sound Setting**.



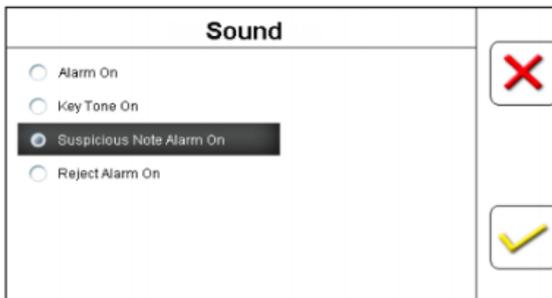
Warning Alarm



Key Tone



Suspicious Banknote Alarm

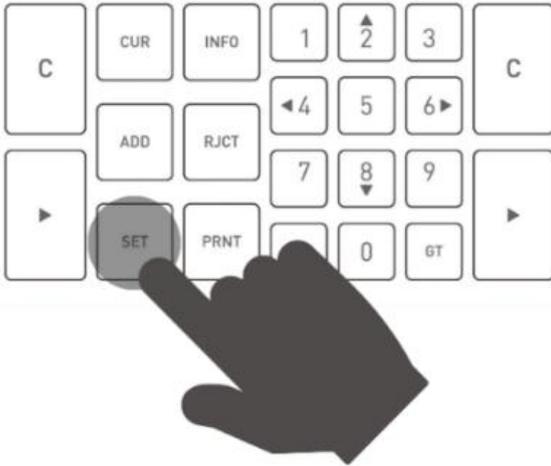


STEP 4

Select a feature with cursor 4 ◀ / 6 ▶ and press **F3** to turn sound on, or **F1** to turn off. Press ▶ or 5 to confirm the selection.

Configuration

There are several features on NC8500 can be customizable by authorized service professional. Only authorized personnel are allowed to configure them after going through password protection steps. Consult the authorized dealer for further information.



STEP 1

Enter Setting Menu with **SET** key.

STEP 2

Select **Configuration** with cursor.
2 ▲ / 8 ▼ or 4 ◀ / 6 ▶

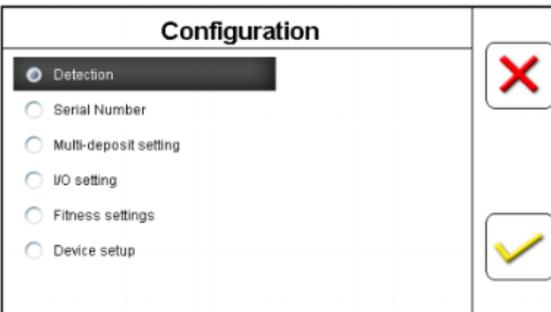
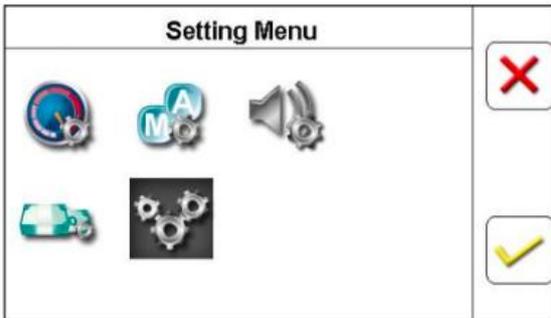
STEP 3

Press ▶ to confirm if the **Configuration** icon is highlighted. Otherwise press **C** to return to previous menu. There are 6 features can be customizable under **Configuration**.

- Detection
- Serial Number
- Multi-Deposit Setting
- I/O Setting
- Fitness Setting
- Device Setup

STEP 4

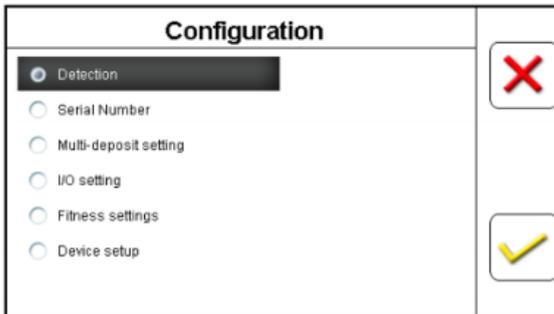
Make selection with cursor 2 ▲ / 8 ▼ or 4 ◀ / 6 ▶, press ▶ or **F3** to confirm. Otherwise press **C** or **F1** to return to previous menu.



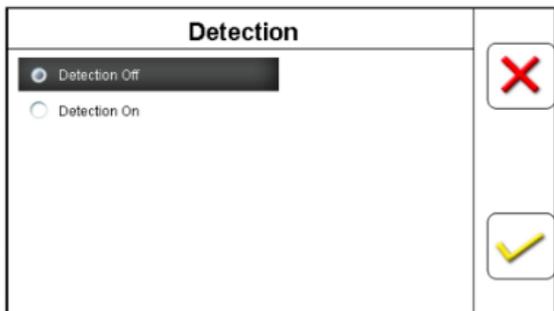
Detection ON/OFF

Counting banknotes with or without counterfeits detection **ON**, and apply it to all Discriminating and Sorting Mode.

NOTE: By default, Detection is **ON**.



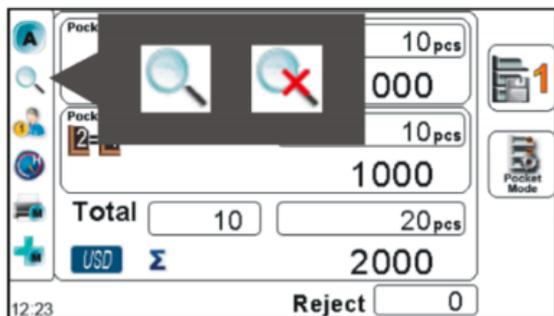
Once entered sub-menu of **Configuration** highlight **Detection**, press **▶** or **F3** to see **ON / OFF** options.



Highlight and select **ON** or **OFF** with cursor keys 2/8. Press or **F3** to confirm.

“Check Box is checked” Count with counterfeit detection and deliver suspicious banknotes to the Reject Pocket.

Check box is unchecked Count banknotes quantity &value without counterfeit checking.



The status of **Detection** are displayed on the taskbar at the main screen.

Serial Number – Output Mode (Unavailable for US market)

Under this menu, service professional is able to choose a desired Output Mode for reading and printing out serial numbers of banknotes.

NOTE: Default: **Normal Print Out** (If available)

Configuration

- Detection
- Serial Number
- Multi-deposit setting
- I/O setting
- Fitness settings
- Device setup

Once entered sub-menu of **Configuration** highlight **Serial Number**, press **▶** or **F3** to see further options.

Highlight and select **Output Mode** with cursor keys **2 ▲** and **8 ▼**. Press **▶** or **F3** to see further options.

Normal Print Out: Print receipts with serial numbers of counted banknotes and save the record into buffer memory (500 notes max.). The record can be printed on 2 receipts.

Buffer Print Out: Save the serial number of counted notes into buffer memory (500 notes max.) and print receipt only when user requires.

Direct Print Out: Print receipt of serial numbers without limitation of banknote quantity. Save no records into the buffer memory.

Make the selection with **F1** to turn the option **OFF** or **F3** to turn **ON** and followed with pressing **▶** to confirm and return to the previous screen.

Serial Number

- Output Mode
- Output Format

Output Mode

- Normal Print out
- Buffer Print out
- Direct Print out

Serial Number – Output Format (Unavailable for US market)

Configuration	
<input type="radio"/> Detection	
<input checked="" type="radio"/> Serial Number	
<input type="radio"/> Multi-deposit setting	
<input type="radio"/> I/O setting	
<input type="radio"/> Fitness settings	
<input type="radio"/> Device setup	
	

Once entered sub-menu of **Configuration** highlight **Serial Number**, Press **▶** or **F3** to see further options.

Highlight and select **Output Format** with cursor keys **2 ▲** and **8 ▼**. Press **▶** or **F3** to see further options.

- **Image:** With image of serial number.
- **String:** With string of serial number.
- **String+ Image:** With image and string of serial number.

Serial Number	
<input type="radio"/> Output Mode	
<input checked="" type="radio"/> Output Format	
	

Make the selection with **F1** to turn the option **OFF** or **F3** to turn **ON** and followed with pressing **▶** to confirm and return to the previous screen.

Output Format	
<input checked="" type="radio"/> Image	
<input type="radio"/> String	
<input type="radio"/> String + Image	
	

Multi-Deposit Setting

Under this menu, service professional is able to select **Multi-Deposit Setting** to choose various deposit requirements using external barcode reader or perform cash reconciliation if available.

The screenshot shows a menu titled "Configuration" with several options: Detection, Serial Number, Multi-deposit setting (highlighted), I/O setting, Fitness settings, and Device setup. A red 'X' icon is in the top right corner, and a yellow checkmark icon is in the bottom right corner.

Once entered sub-menu of **Configuration** highlight **Multi-Deposit Setting**, press **▶** or **F3** to see further options.

Highlight and select a desired option with cursor keys **2 ▲** and **8 ▼**. Press **▶** or **F3** to see further options.

The screenshot shows a menu titled "Multi-deposit Setting" with two options: Barcode Reader (highlighted) and Conciliation. A red 'X' icon is in the top right corner, and a yellow checkmark icon is in the bottom right corner.

Barcode Reader: To activate reading of barcoded documents, such as tickets, with an external barcode scanner.

The screenshot shows a menu titled "Barcode Reader" with two options: OFF (highlighted) and ON. A red 'X' icon is in the top right corner, and a yellow checkmark icon is in the bottom right corner.

Make the selection with **F1** to disable the feature or **F3** to activate and followed with pressing **▶** to confirm and return to the previous screen.

The screenshot shows a menu titled "Multi-deposit Setting" with two options: Barcode Reader and Conciliation (highlighted). A red 'X' icon is in the top right corner, and a yellow checkmark icon is in the bottom right corner.

Conciliation: Select this feature if device is connected with a teller software application and properly interfaced by the teller software developer.

The screenshot shows a menu titled "Conciliation" with two options: Conciliation off line (highlighted) and Conciliation on line. A red 'X' icon is in the top right corner, and a yellow checkmark icon is in the bottom right corner.

Make the selection with **F1** to disable the feature or **F3** to activate and followed with pressing **▶** to confirm and return to the previous screen.

I/O Setting

Under this menu, service professional is able to configure number of external printers to be connected, width of printer paper, type of printings, barcode reader settings (if equipped), and printer baud rate... etc.

Configuration	
<input type="radio"/> Detection	 
<input type="radio"/> Serial Number	
<input type="radio"/> Multi-deposit setting	
<input checked="" type="radio"/> I/O setting	
<input type="radio"/> Fitness settings	
<input type="radio"/> Device setup	

Once entered sub-menu of **Configuration** highlight **I/O Setting**, Press **▶** or **F3** to see further options.

Highlight and select a desired option with cursor keys **2 ▲** and **8 ▼**. Press **▶** or **F3** to see further options.

I / O setting	
<input checked="" type="radio"/> Output setting	 
<input type="radio"/> Print paper	
<input type="radio"/> Output Format	
<input type="radio"/> Barcode Reader setting	
<input type="radio"/> Printer Baud Rate	
<input type="radio"/> Printer Type	

Output Setting

- **Dual Printer:** To activate two printer ports, that two printers can be connected for dual users operation.
- **Single Printer:** COM1 Dual users share one printer.
- **Printer: COM1+Barcode Reader:** 2 users share one printer and one barcode reader/scanner.

Output Setting	
<input checked="" type="radio"/> Dual Printer	 
<input type="radio"/> Single Printer	
<input type="radio"/> Printer + Barcode reader	

Highlight and select a desired option with cursor keys **2 ▲** and **8 ▼**. Press **▶** or **F3** to confirm selection. Press **C** to return to previous menu.

I / O setting	
<input type="radio"/> Output setting	 
<input checked="" type="radio"/> Print paper	
<input type="radio"/> Output Format	
<input type="radio"/> Barcode Reader setting	
<input type="radio"/> Printer Baud Rate	
<input type="radio"/> Printer Type	

Print Paper: Setting paper size of the connected printer.

NOTE: Default: W 79.5

- **W57.5** 2" paper
- **W79.5** 3" paper

Print Paper	
<input checked="" type="radio"/> W57.5	 
<input type="radio"/> W79.5	

Highlight and select a desired option with cursor keys **2 ▲** and **8 ▼**. Press **▶** or **F3** to confirm selection. Press **C** to return to previous menu.

I / O setting	
<input type="radio"/> Output setting	<div style="text-align: center; border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;">✗</div> <div style="text-align: center; border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;">✓</div>
<input type="radio"/> Print paper	
<input checked="" type="radio"/> Output Format	
<input type="radio"/> Barcode Reader setting	
<input type="radio"/> Printer Baud Rate	
<input type="radio"/> Printer Type	

Output Format: setting output format of printer output.

- **ESC/POS:** Apply to ordinary printers.
- **B:** Default for casinos **N/A**.
- **C:** Default for casinos **N/A**.
- **D:** Default for casinos **N/A**.

Output Format	
<input checked="" type="radio"/> ESC / POS	<div style="text-align: center; border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;">✗</div> <div style="text-align: center; border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;">✓</div>
<input type="radio"/> B	
<input type="radio"/> C	
<input type="radio"/> D	

Highlight and select a desired option with cursor keys **2 ▲** and **8 ▼**. Press **▶** or **F3** to confirm selection. Press **C** to return to previous menu.

I / O setting	
<input type="radio"/> Output setting	<div style="text-align: center; border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;">✗</div> <div style="text-align: center; border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;">✓</div>
<input type="radio"/> Print paper	
<input type="radio"/> Output Format	
<input type="radio"/> Barcode Reader setting	
<input checked="" type="radio"/> Printer Baud Rate	
<input type="radio"/> Printer Type	

Printer Baud Rate: Setting baud rate for connected receipt printer.

NOTE: Default: 115200

- **9600 bps**
- **57600 bps**
- **115200 bps**

Printer Baud Rate	
<input checked="" type="radio"/> 9600	<div style="text-align: center; border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;">✗</div> <div style="text-align: center; border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;">✓</div>
<input type="radio"/> 57600	
<input type="radio"/> 115200	

Highlight and select a desired option with cursor keys **2 ▲** and **8 ▼**. Press **▶** or **F3** to confirm selection. Press **C** to return to previous menu.

I / O setting	
<input type="radio"/> Output setting	<div style="text-align: center; border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;">✗</div> <div style="text-align: center; border: 1px solid black; width: 30px; height: 30px; margin: 0 auto;">✓</div>
<input type="radio"/> Print paper	
<input type="radio"/> Output Format	
<input type="radio"/> Barcode Reader setting	
<input type="radio"/> Printer Baud Rate	
<input checked="" type="radio"/> Printer Type	

Printer Type: setting type of printer.

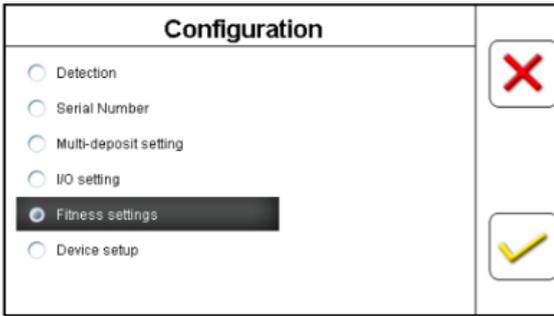
- **Thermal**
- **Dot Matrix**

Printer Type	
<input checked="" type="radio"/> Thermal	<input type="checkbox"/>
<input type="radio"/> Dot Matrix	<input type="checkbox"/>

Highlight and select a desired option with cursor keys **2 ▲** and **8 ▼**. Press **▶** or **F3** to confirm selection. Press **C** to return to previous menu.

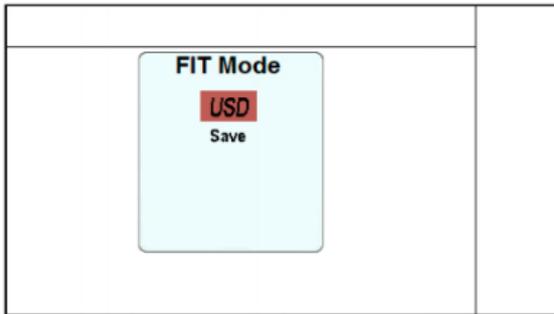
Fitness Setting

Under this menu, service professional is able to adjust various fitness sorting levels from ATM-FIT-UNFIT fitness criteria.



Once entered sub-menu of **Configuration** highlight **Fitness Setting**, press **▶** or **F3** to see further options.

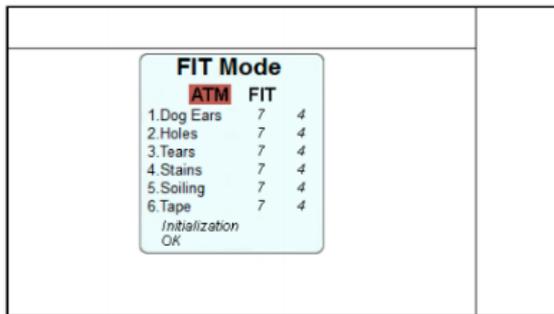
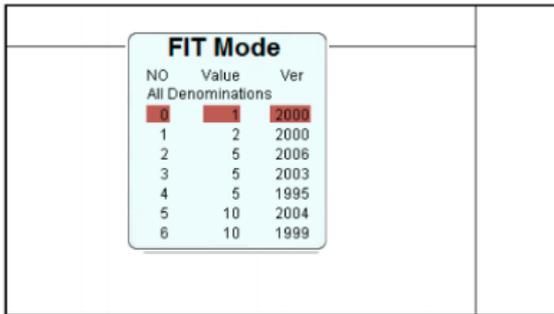
Highlight and select a desired currency with cursor keys **2 ▲** and **8 ▼**. Press **▶** or **F3** to see further options.



i.e. For USA model, choose **USD** currency. If multiple currencies are installed, user has the option to choose other currencies for fitness level criteria.

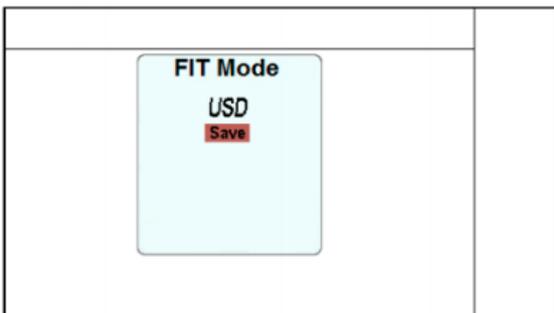
Highlight **Save** and press **▶** to save the settings. Next, select **All Denominations** or specify denomination and its version (issue), to adjust different fitness criteria level.

NOTE: Select **All Denominations** apply setting for all currency denominations. Otherwise, specify a denomination, i.e. US\$5, there are three different issues released, so, select the issue year to adjust fitness level criteria.



As appropriate denomination and issues are selected, enter FIT Mode as below:

Under FIT Mode, service personnel are able to toggle between ATM and FIT fitness to adjust various fitness sorting criteria.



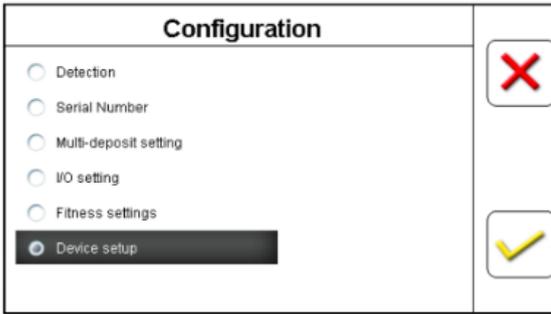
Select a desired level with cursor keys **2 ▲** and **8 ▼**. Press **▶** to confirm and return to the previous menu.

Highlight **Save** and hit **▶** to save the settings.

NOTE: When restoring the factory's default fitness level, make sure **OK** message is shown at the Initialization.

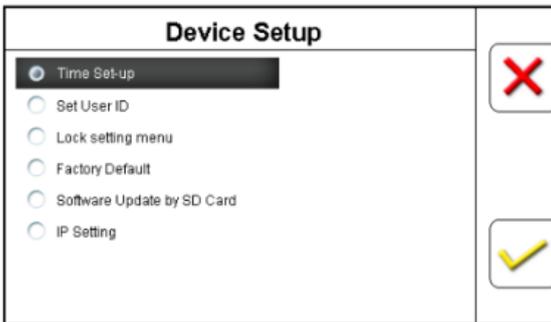
Device Setup

This is where general setting is located.



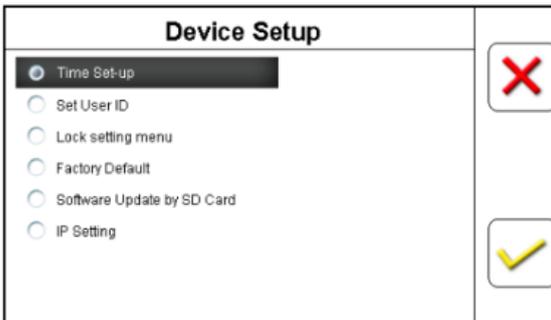
Once entered sub-menu of **Configuration** highlight **Device Setup**, press **▶** or **F3** to see further options.

Highlight and select a desired option with cursor keys **2 ▲** and **8 ▼**. Press **▶** or **F3**.



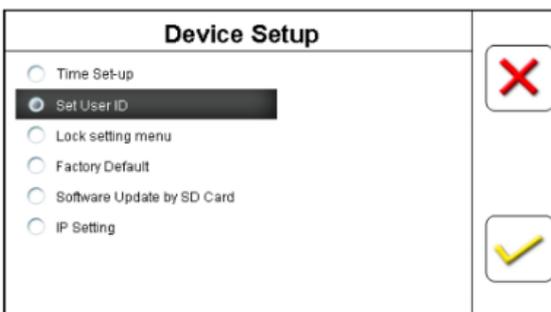
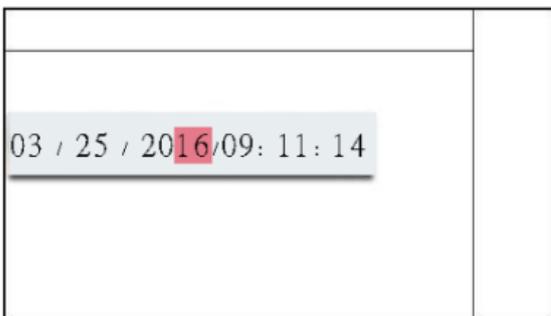
Device Setup:

- Time Setup
- Set User ID
- Lock Setting Menu
- Factory Default
- Software Upgrade by SD
- IP Setting



Time Setup: Change date and time. Browse **Time Setup** with cursor keys **2 ▲ / 8 ▼** or **4 ◀ / 6 ▶** and press **▶** to enter modification menu.

1. Highlight a desired zone with cursor keys, and followed by pressing **▶** to confirm.
2. Highlight color of the selected zone turns red from pink.
3. Change date and time setting with numeric keys on the control panel.
4. Press **▶** to confirm the configuration. OR press **C** repeatedly until returned to previous screen.



Set User ID:

This feature is to assign ID to USER 1/USER 2.

- Browse **Set User ID** with cursor keys **2 ▲ / 8 ▼** or **4 ◀ / 6 ▶** and press **▶** to enter modification menu.
- Highlight the User number with cursor keys to assign a name and confirm by pressing **▶**.
- Input the first letter of name with cursor keys **2 ▲ / 8 ▼**.
- Press **4 ◀ / 6 ▶** to toggle to other letters.

NOTE: 7 letters at max. when inputting a name.

Set User ID	
<input checked="" type="radio"/> User 1	✗
<input type="radio"/> User 2	
✓	

Device Setup	
<input type="radio"/> Time Set-up	✗
<input type="radio"/> Set User ID	
<input checked="" type="radio"/> Lock setting menu	
<input type="radio"/> Factory Default	
<input type="radio"/> Software Update by SD Card	
<input type="radio"/> IP Setting	
✓	

Lock Setting Menu	
<input checked="" type="radio"/> Password	✗
<input type="radio"/> OFF	
✓	

Device Setup	
<input type="radio"/> Time Set-up	✗
<input type="radio"/> Set User ID	
<input type="radio"/> Lock setting menu	
<input checked="" type="radio"/> Factory Default	
<input type="radio"/> Software Update by SD Card	
<input type="radio"/> IP Setting	
✓	

Factory Default	
<input checked="" type="radio"/> OFF	✗
<input type="radio"/> ON	
✓	

Lock Setting Menu:

1. A selection of locking the **Configuration** menu with / without password.
2. Browse **Lock Setting Menu** with cursor keys 2 ▲ / 8 ▼ or 4 ◀ / 6 ▶ and press ▶ to enter modification menu.

Highlight a selection with cursor keys followed by ▶ to save the setting.

Once the selection is made, it automatically returns to the previous menu.

Factory Default: Only for Highly-Trained Authorized Personnel.

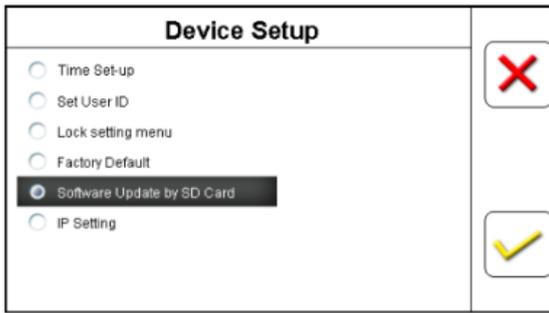
- A selection of restoring factory default settings every time when turning the power on. All user settings are erased if this feature is selected.

- Read the following instructions with extra caution.

Highlight a selection with cursor keys followed by ▶ to save the setting.

- **ON:** Restores factory default setting every time turning the machine on.
- **OFF:** All user settings are saved as long as no adjustments are made.

Confirm and save selection with it and ▶ automatically returns to the previous menu.



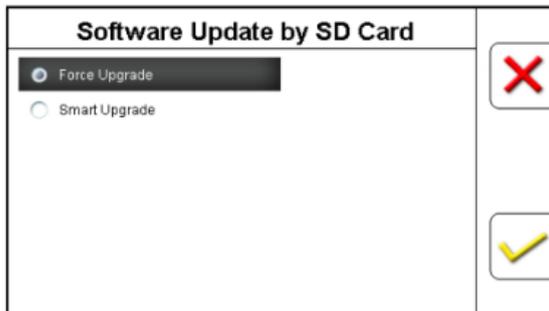
Software Upgrade by SD Card:

WARNING: This configuration is only authorized to our service professional. Otherwise it voids the warranty. Insert a SDHC memory card into the SD Card slot located at rear of the PMI.

The SD Card must be preloaded with new authorized update software from MASTERWORK AUTOMODULES (Currently unavailable)

Suggested SD Card specification:

- **Hardware Format:** SDHC, Class 4 or 10.
- **Software Format:** FAT32, 4096 (4K)
- **Capacity:** 4~8GB (Recommended)

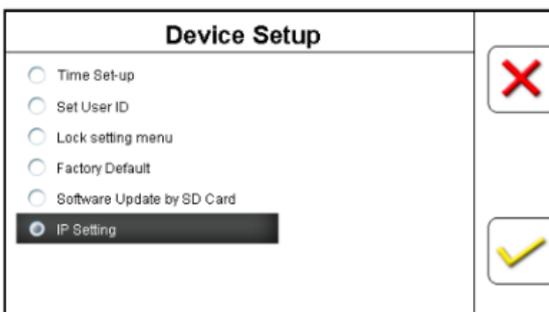


Highlight **Software Upgrade** by SD Card] with cursor keys **2 ▲ / 8 ▼** and press **▶** to enter update menu. Insert a SD Card to the upgrade slot.

- **Force Upgrade** Despite the currently installed software version, force to upgrade to the version contained in the SD Card anyway.
- **Smart Upgrade:** Cross-reference the version in the machine and the SD Card; upgrade is proceeded only if the SD Card contains an updated version.

Press **▶** to confirm and start upgrade progress.

NOTE: Once the upgrade is succeeded, reboot the machine. If the upgrade failed for unknown reasons, DO NOT proceeds with further upgrade. Contact us for troubleshooting or prior to upgrade procedures (Service providers only)



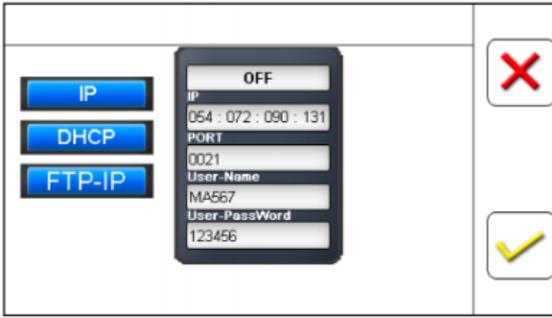
IP Setting:

This configuration is only authorized to our service professional. Otherwise it voids manufacturer's warranty.

1. Input a set of virtual IP for Software upgrade purpose, via LAN connection.
2. Highlight **IP Setting** with cursor keys **2 ▲ / 8 ▼** and press **▶** to enter update menu.

Highlight and select **IP** or **DHCP** and press **▶**.

- **IP:** Enter IP, MASK, and Gateway manually.
- **DHCP:** Obtain IP automatically.
- **FTP-IP:** Applied only for Deposit Killing, Enter IP, Port, Username, Password manually.



Select the number to be changed, and press **▶**, once the highlight color turns to bright red, input numbers with numeric keys on the control panel. Press **▶** again to save when the setting is done. Press **C** to exit and return to previous screen.

NC8500-MAINTENANCE

Opening the Bill Path

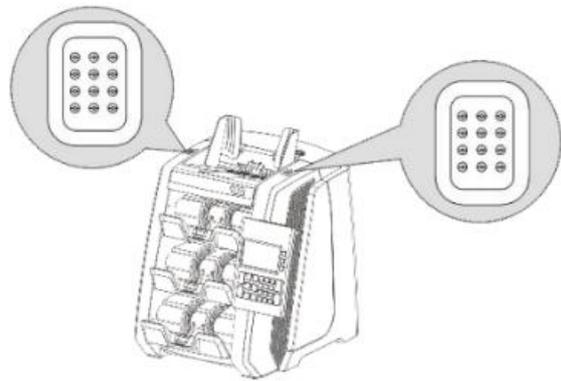
WARNING: Procedures below are only authorized to our service professional. Otherwise voids the warranty.

CAUTION:

- DO NOT attempt to open the **Bill Path** while the device is still in operation.
- Open the **Bill Path** only when banknotes are jammed in this area as prompted by the error message displayed on the LCD screen during a counting operation and only when device is halted.
- Turn the power off and unplug the power cord before cleaning/maintenance.

STEP 1

Press the 2 **Releasing Buttons** located as illustrated below simultaneously.



STEP 2

Gently pull the **Front Module** outwards until fully opened.



Cleaning

Exterior

1. Prepare Simple Green concentrate or a mixture of a gentle kitchen-use detergent (One that does not contain abrasive powder or strong chemicals such as acid or alkaline), Dilute 1 cup of detergent with 5 cups of water.
2. Soak the sponge with the detergent dilution for a couple of minutes.
3. Squeeze excess dilution out of the sponge.
4. Wipe the machine cover with sponge in a circular motion and make sure not to let any excess liquid drip into the interior of machine.
5. Rinse the sponge with clean running water.
6. Wipe the cover with the clean sponge.
7. Wipe the surface again with a dry, soft lint-free cloth.
8. Wait until the cover is dried completely and remove any fiber.

Bill Path

1. Open the Bill Path
2. Gently wipe the Bill Path or dust the Bill Path with a brush, compressed air can or a dry, soft lint-free cloth.
3. If stain or debris remains, moisten a soft lint-free cloth with water or a 50-50 mixture of isopropyl alcohol and water that does not contain impurities.
4. Squeeze out as much of the liquid as it can.
5. Wipe the bill path and the sensor surface again; do not let any liquid drip into the device.
6. Repeat Step 1-5 to clean the lower bill path.

NOTE: Avoid spraying cleaner directly onto NC8500 or any of the sensors, and be sure to dry the bill path before closing it.

NC8500-SPECIFICATION

Feed System	: Roller Friction System
Counting Modes	: Count, Mix, Sort, Face, Orientation, Fitness (ATM, FIT, UNITFIT) Issue, TITO (Optional)
Counterfeit Detection	: CIS (Contact Image Sensor, checking banknote image pattern) : 1 Set MR (Magneto Resistive) : 1 Set MG Array (Magnetic Ink or properties) : 2 Sets UV (Ultra Violet) : 4 Sets Thickness Sensor (Soil, Tape etc.) : 1 Set
Counting Speed	: Piece Count 1000 Notes/Min. Denomination Count Approx. 800 Notes/Min (Fixed). Serial Number Count Approx. 800 Notes/Min. (Unavailable) Fitness Count Approx. 800 Notes/Min (Fixed)
Max. Currency Combo	: Up to 10 Currencies (USD As Standard)
Denomination Detection	: Contact Image Sensor (CIS)
Hopper Capacity	: 500 Circulated Banknotes
Pocket Capacity (Circulated Notes)	: Reject Pocket Max. 100 Notes Pocket 1 Max. 200 Notes Pocket 2 Max. 200 Notes
Countable Note Size	: 60 x 85 x 0.08mm ~ 100 x 190 x 0.12mm
Display	: 4.3" Color TFT LCD
Power Supply	: AC 100 ~ 240V, 50/60Hz
Power Consumption	: Max. 100W
Dimensions (W x D x H)	: 13.7" x 17.6" x 17.3" 345 x 445 x 437mm
Net Weight	: 66 lbs. 30 Kgs
Interface	: RS 232 USB 2.0 (PC Connection Interface) SD Card (Software Update) Ethernet Mini USB (Remote Display)
Optional Accessories	: Remote Display Unit Dot Matrix & Thermal Printer (Contact MASTERWORK AUTOMODULES for recommended printers)