

Preface



Thank you for purchasing the ZZap NC50 banknote counter. The ZZap NC50 is the latest high-performance banknote counter incorporating digital processing technology. The NC50 supports mixed denomination value counting for GBP, EURO, PLN, NOK, SEK, and TRL. It can also count and authenticate most major currencies. Please read this manual carefully before operating the NC50.

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1. Safety instructions

Please read the safety instructions before operating the ZZap NC50 to avoid personal injury and damage to the machine.

	<ul style="list-style-type: none">• When cleaning the device, do not use sprays that contain flammable gases.• If the NC50 is exposed to low temperatures for prolonged periods of time then it must be kept at room temperature for approximately two hours before using the product.• Take care not to accidentally drop metal objects or flammable materials inside the unit.• Do not disassemble the NC50. Incorrect reassembly may endanger the user.
	<ul style="list-style-type: none">• To prevent an electric shock, do not disconnect the plug when your hands are wet.• To prevent a fire or short circuit, unplug the unit before moving it to another position.• Do not pull on the power lead when disconnecting the power supply. This can damage the connection.• Avoid placing heavy objects on the power lead.

2. Package contents

The package includes the following:



Power lead



User manual



Cleaning brush



Fuse



USB cable (optional)



External display (optional)



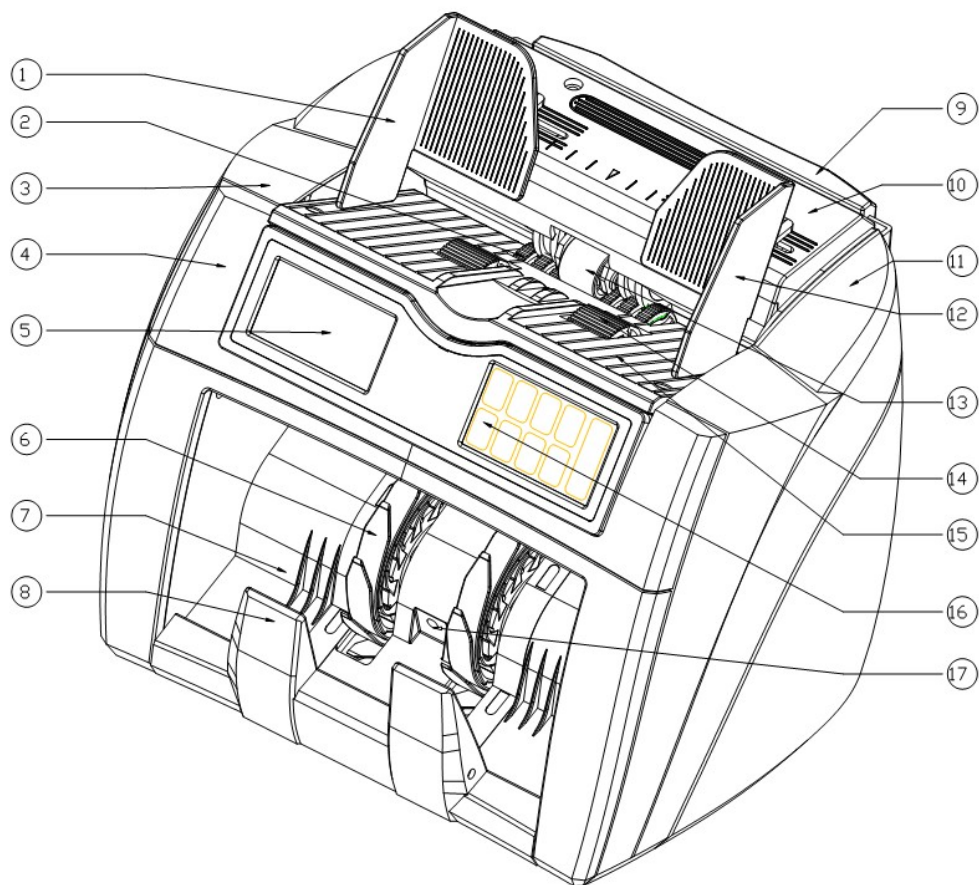
RS-232 cable (optional)



ZZap NC50 Banknote Counter

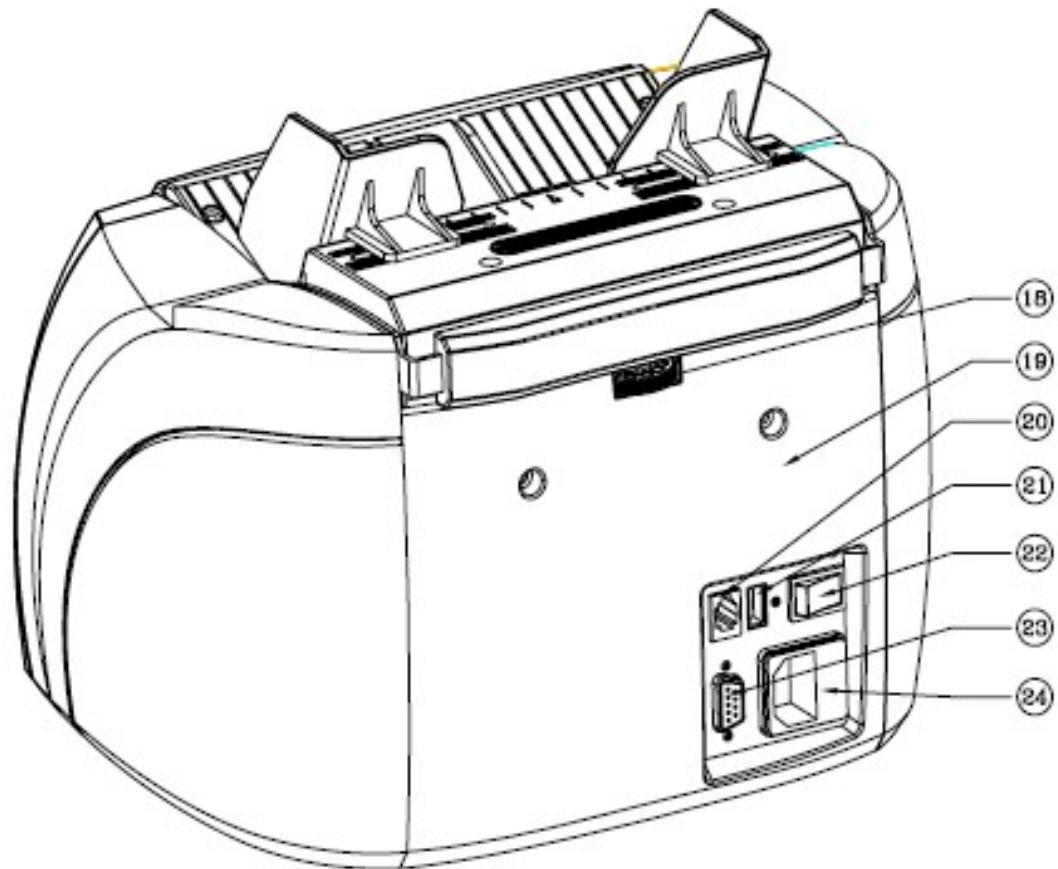
3. Exterior features

3.1 Front aspect



- | | |
|--------------------------------------|---------------------------------------|
| (1) Left hopper guide | (10) Top cover |
| (2) Lower aft banknote feeder wheels | (11) Right cover |
| (3) Left cover | (12) Right hopper guide |
| (4) Control panel cover | (13) Upper aft banknote feeding wheel |
| (5) LCD screen | (14) Forward banknote feeder wheels |
| (6) Stacker impeller | (15) Hopper |
| (7) Stacker panel | (16) Control panel |
| (8) Stacker | (17) Stacker start/stop sensor |
| (9) Handle | |

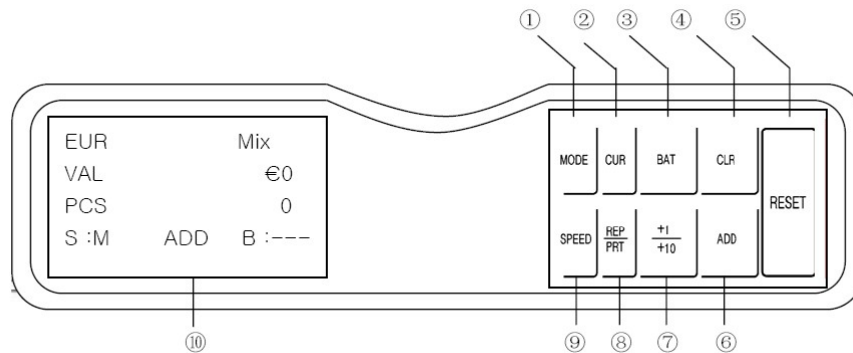
3.2 Rear aspect



- (18) Banknote feed adjustment knob
- (19) Back cover
- (20) Printer interface
- (21) USB interface

- (22) Power switch
- (23) RS-232 interface
- (24) Power socket

3.3 Control panel



- ① MODE: Press this key to select a counting mode (Mix, Sort & Count mode).
- ② CUR: Press this key to select a currency.
- ③ BAT: Press this key to activate the batch function.
- ④ CLR: Press this key to clear the count memory.
- ⑤ RESET: Press this key to start counting.
- ⑥ ADD: Press this key to activate the add function (accumulative counting).
- ⑦ +1/+10: Press this key to set the batch number.
- ⑧ REP/PRT: Press this key to view/print the count result report.
- ⑨ SPEED: Press this key to select a counting speed (L= Low, M=Medium and H=High).
- ⑩ LCD: Display.

4. Operating instructions

- To count Euro banknotes, put the left hopper guide and right hopper guide to the "€" symbol position on the top cover.
- Ensure the NC50 is placed away from any strong magnetic fields or strong sunlight.
- Plug the power socket into a 220V AC power source.
- If using an external display, connect it to the RS-232 interface on the back of NC50.

Turn on the power using the ON/OFF switch. The NC50 will display the software version and perform a self-test. The machine is now ready for operation. If the display is other than that shown below, then please refer to the troubleshooting guide on page 12 in this manual.

EUR	Mix
VAL	€ 0
PCS	0
S:M	ADD
	B:---

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- ❗ To ensure personal safety, make sure the power socket is properly grounded.
- ❗ To prevent errors, the following banknotes should be removed before counting.
 - ① Banknotes that have been mended with paper.
 - ② Banknotes that have been washed.
 - ③ Banknotes that have been seriously contaminated.
 - ④ Banknotes that have been damaged.

Place the banknotes on the hopper, with the smaller denomination banknotes in the middle where possible, then set the hopper guide to a suitable position based on the width of banknotes. Make sure the banknotes are placed in the centre of the hopper and that they are squarely on top of each other (Figure 1). If you are counting banknotes that are the same size, please place them as shown in Figure 2.



Figure 1



Figure 2

When a counterfeit banknote has been detected, the NC50 will stop immediately, and the alarm will sound. The top banknote on the stacker is the counterfeit or suspicious banknote (Figure 3). Remove the counterfeit banknote and then press the “RESET” key to continue counting.



Figure 3

- ❗ Note: When an error occurs and causes the machine to stop, please re-count the banknotes.

5. Functions

5.1 Currencies

After turning on the machine, the currency code for the selected currency will be displayed.

If you need to count another currency, press the "CUR" key to change the selected currency:

"EUR" means Euro

"GBP" means British Pound

"USD" means United States Dollar

...etc.

5.2 Detecting and counting modes

Three detecting/counting modes can be selected: Mix Mode, Sort Mode and Count Mode.

5.2.1 Mix mode

When you need to count the value of banknotes, press the "MODE" key on the control panel.

If "Mix" is displayed on the LCD screen, the NC50 will count the total value of the banknotes.

After the NC50 has finished counting, the total value and quantity of banknotes counted will

be displayed on the LCD screen. A counting report can be obtained by pressing the

"REP/PRT" key. An example of a counting report is below.

5:	49	245
10:	0	0
20:	0	0
50:	0	0
100:	21	2100
200:	8	1600
500:	10	5000
TOT:	88	8945

Denomination Quantity Value

To print the counting report: connect a printer to the NC50, press and hold "REP/PRT" key for 2 seconds and the report will be printed.

Deno	PCS	Value
Euro 5	49	245
Euro 100	21	2100
Euro 200	8	1600
Euro 500	10	5000
88		8945

5.2.2 Sort mode

When you need to sort a stack of banknotes into the same denomination, press the "MODE" key on the control panel. If "Sort" is displayed on the LCD screen, the machine will count the total quantity of banknotes. If a banknote with a different width is counted, the machine will stop, the buzzer will "beep", and "width error" will be displayed on the LCD screen. The top banknote on the stacker will be the banknote with a different width and will not be added to the total. The NC50 can identify a width discrepancy of 3mm, which can be adjusted to 8mm if necessary. The width discrepancy is set to 5mm by default.



Note: Some currencies may be sorted by other factors in addition to width.



Note: In sort mode, counterfeit detection is turned on.

5.2.3 Count mode

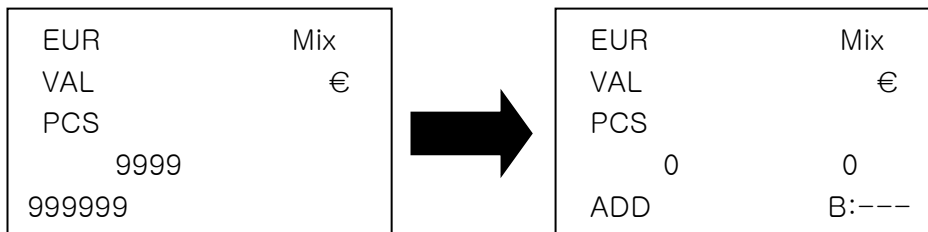
When you need to count the total quantity (not value) of banknotes, press the "MODE" key on the control panel. When "Count" is displayed on the LCD screen, the machine will count the quantity of banknotes without using any counterfeit detection. After the counting has finished, the number displayed on the LCD screen is the total quantity of banknotes that have been counted.



Note: In count mode, counterfeit detection is turned off.

5.3 Accumulative counting

When you need to accumulatively count, press the "ADD" key on the control panel and "ADD" will be displayed on the screen. This function allows you to add numerous batches of banknotes together. The number displayed on the screen will be added to each counting result. When the accumulative value reaches 9999+1 or 999999+1, the number displayed will be reset back to 0 on the screen.



5.4 Batch counting

When you need to use the batch counting function press the "BAT" key; 100 will be displayed on the LCD screen, this means the NC50 will count batches of 100. Each time you press the "BAT" key, 100, 50, 20, 10 and "---" will be displayed. If "---" is displayed, the batch counting mode is disabled. If you press or hold "+1/+10" key, the batch number will be added with 1 or 10. The NC50 counts batches between 1 and 200. Put the banknotes on the hopper, and the NC50 will start counting automatically. When the NC50 reaches the selected batch number, the NC50 will stop automatically. If you want to continue batch counting, you simply take the banknotes from the stacker, and the machine will automatically start counting another batch.

5.5 Counting speed

To select a counting speed, press the "SPEED" key and the speed level will be displayed on the LCD screen. There are three speed settings you can select:

- "S:H" High speed mode with a counting speed of 1500notes/min.
- "S:M" Medium speed mode with a counting speed of 1200notes/min.
- "S:L" Low speed mode with a counting speed of 800notes/min.



Note: It is not recommended to select high speed mode when using the mix or sort modes as this may degrade the performance of the machine.

6. Counterfeit detection sensitivity

The NC50 has several counterfeit detections. You can adjust the sensitivity of each counterfeit detection to suit the currency or banknotes you are counting.

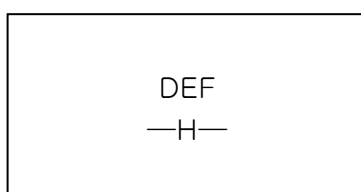
6.1 Counterfeit detection sensitivity parameters

Press and hold the "CUR" key and turn on the machine simultaneously; the counterfeit detection and sensitivity will be displayed (see below table). Press the "MODE" key to select a counterfeit detection. Press the "ADD" key to increase the sensitivity and press the "BAT" key to decrease the sensitivity. After all the sensitivity parameters have been correctly inputted, press the "Reset" key to save.

Counterfeit detection	Default sensitivity	Range
Width sensitivity level	-4-	0~8
UV sensitivity level	-4-	0~8
MG/MT sensitivity level	-2-	0~4
Color sensitivity level	-4-	0~8
IR sensitivity level	-3-	0~8
Paper sensitivity level	-3-	0~8

6.2 Restoring counterfeit detection sensitivity to factory settings

Press and hold the "CLR" key and turn on the machine simultaneously; "DEF" and "—H—" will be displayed (see below). Press the "RESET" key to save the parameters and exit. This will restore the NC50 to factory settings.



7. Troubleshooting

7.1 Self-test error messages and solutions

When the NC50 is switched on, it will automatically perform a self-test. If an error message is displayed on the screen, usually it is because a sensor is blocked by either banknotes or dust. Please use a brush or a soft cloth to clean the dust off the sensors and remove any jammed banknotes. Then restart the machine.

Self-test error messages	Solution
Fluorescence sensor	Move the machine to a position that avoids strong light
Banknote feeding sensor	Remove banknotes and/or dust from the hopper
Banknote receiving sensor	Remove banknotes and/or dust from the stacker
Left counting sensor	Remove banknotes and/or dust from the left counting sensor or align the sensor heads
Right counting sensor	Remove banknotes and/or dust from the right counting sensor or align the sensor heads
Ext IR sensor	Remove banknotes and/or dust
Rotate speed sensor	Clean the code wheel and sensor or replace the rubber-belt
Internal memory fault	Restore to factory settings

7.2 Detection error messages and solutions

If the following error messages are displayed on the screen, stop the machine and use the table below.

Error message	Causes and solutions
Slant notes	Banknotes need to be centred and level with the hopper. Press "RESET" to continue counting. If necessary turn the 'banknote feed adjustment knob' in a clockwise direction.
Chained notes Double notes	Some banknotes are connected or overlapped. Try counting again. If this error message is displayed frequently, turn the "banknote feed adjustment knob" anti-clockwise.
Incomplete notes	An incomplete banknote has been counted. Remove it and press "RESET" to continue the counting.
UV error IR error Magnetic feature fail	A counterfeit or suspicious banknote has been detected. Remove it and press "RESET" to continue counting. If detection occurs frequently (and the banknotes are not counterfeit) lower the counterfeit detection sensitivity.
Width error	Some banknotes are nonconforming in size, remove them and press "RESET" to continue.
Denomination different	Remove suspect banknotes and re-count.
Cannot Judge Denomination	Remove the banknotes and re-count.
Receiver stacker full	The stacker is full (220 banknotes max). Remove the banknotes.



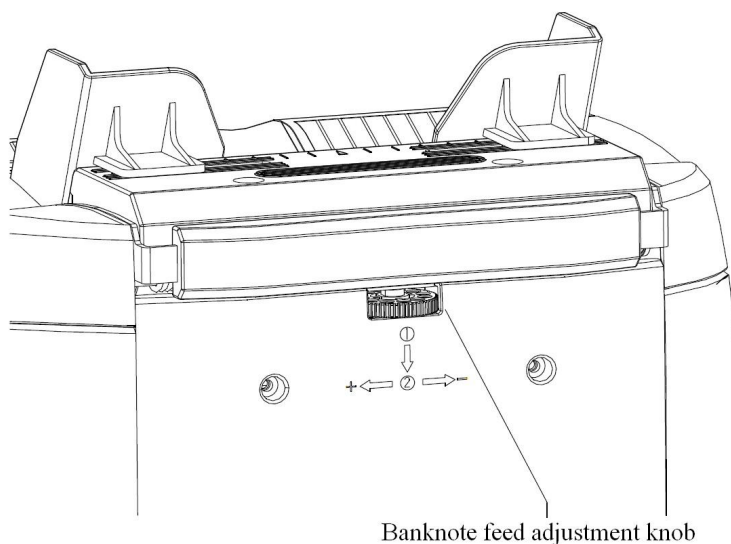
Note: Banknotes should be re-counted if any of the above errors has occurred.

8. Adjusting the banknote feed

When counting errors occur (i.e. Double notes/ Chain notes), the banknote feed adjustment knob may need to be adjusted in order to optimise the banknote feed. Push the banknote feed adjustment knob downwards before turning the knob.

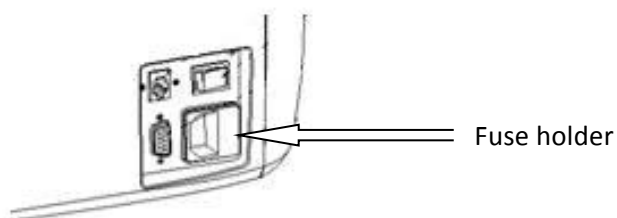
- When the banknotes are not fed into the machine smoothly, increase the distance by turning the banknote feed adjustment knob in a clockwise direction.
- When the machine stops and displays the message "Double notes" or "Chained notes", decrease the distance by turning the banknote feed adjustment knob in an anti-clockwise direction.

The banknote feed adjustment knob is very sensitive; make only minor adjustments.



9. Fuse replacement

Replace the fuse if it has blown: open the cover of the fuse holder, discard the blown fuse and replace it with a new fuse of the same type and rating.



10. Maintenance and general use

- In cold conditions please turn on the NC50 and wait for three minutes before operating.
- The NC50 should be operated in an area with good ventilation and be kept away from strong sunlight and strong magnetic fields.
- The plug of the machine should be inserted into an electrical socket with a safe grounding.
- The power supply for the machine should be within the scope of 220V±10%. If not, it will affect the machine's operation.
- Do not put any lubrication on any of the rotating or delivery wheels, otherwise they will slip and counting will become inaccurate.
- The ultraviolet LED, IR sensors, and magnetic sensors should be thoroughly cleaned at least once a week. You can clean the machine and sensors using the brush provided to remove any dust build-up. You may also clean the sensors, using the cleaning note provided.

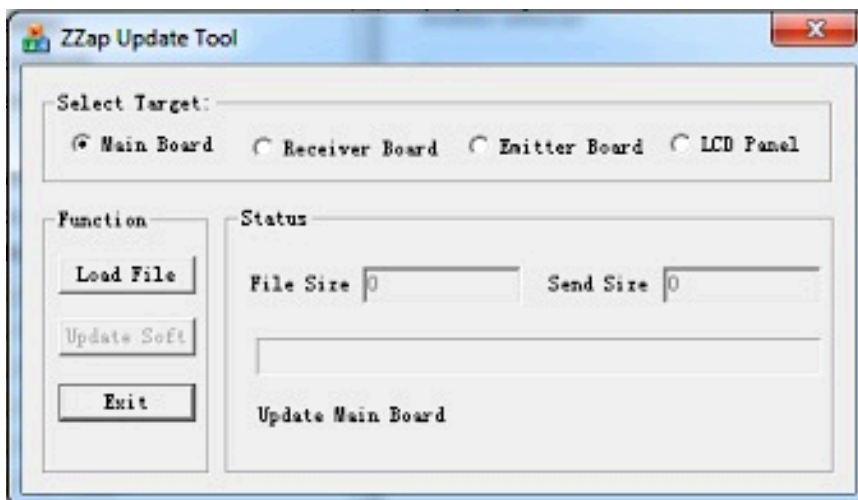


Do not use any chemicals to clean this machine

11. Software updating

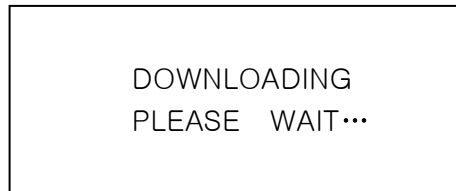
To update the NC50, you will need to visit the ZZap website (www.zzaponline.co.uk) in order to obtain the relevant software.

- a) Install the USB driver to the PC (only needs to be installed once).
- b) Using either the USB or RS-232 interface on the back of the NC50; connect the PC and NC50 with the download cable (download cables available at www.zzaponline.co.uk).
- c) Open the “ZZap Update Tool” on the PC.

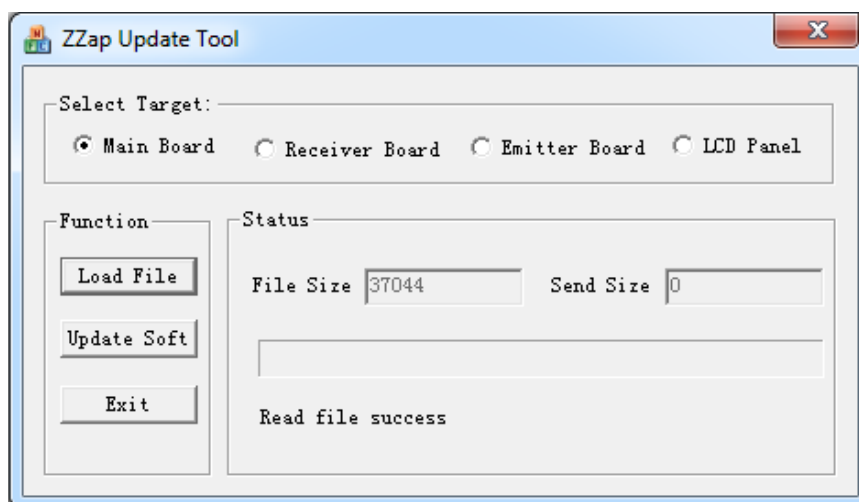


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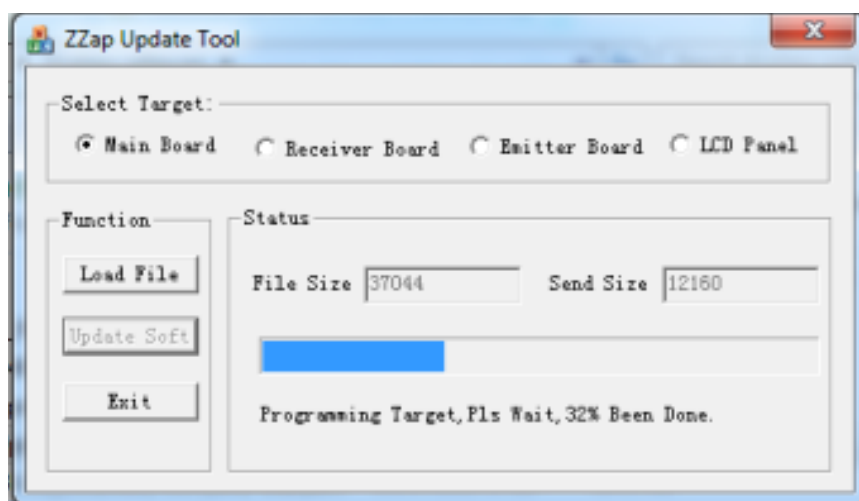
d) Connect the NC50 to a power source using the power lead provided. Press and hold the "RESET" key and turn on the machine simultaneously. The NC50 will then enter into download mode. "DOWNLOADING PLEASE WAIT..." will be displayed on the LCD screen.



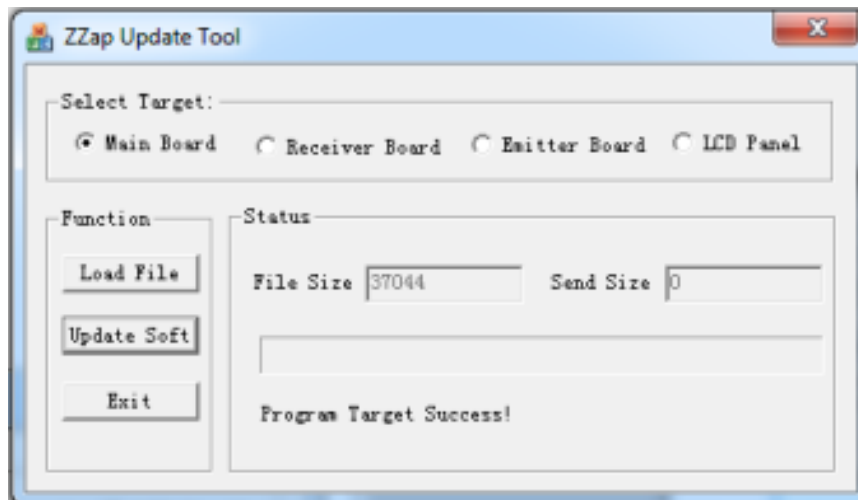
e) Select the "main Board" then click "load File". Select the file you want to download and open the file. The file size will be displayed.



f) Click the "Update Soft" button; the file will start to download. The progress of the downloaded file will be displayed.



g) When the update has completed, restart the machine.



12. Specifications

- Note size range: 110×50 - 175×85 (mm)
- Hopper capacity: 300 banknotes
- Stacker capacity: 220 banknotes
- Quantity display: 0-9999
- Value display: 0-999999
- Power supply: AC 100-240V, 50Hz/60Hz
- Power consumption: 60W
- Operating temperature range: 0°C - 40°C
- Operating humidity range: 40% - 90%
- Dimensions: 287 (Length) × 243 (Width) × 248 (High) mm
- Weight: 6.5Kg
- Counting speed: 800/1200/1500 notes/min, selectable

If the machine has a fault that you are unable to resolve, please email ZZap at support@zzaponline.co.uk

Products are subject to change without further notice.