## Preface

The CS80 is a heavy-duty machine designed for high volume counting. It counts & sorts your coins at high speed while rejecting any counterfeit/foreign coins. The CS80 reports the break down of the counting result for easy administration and with its batch counting function bagging your coins is made quick & simple.

## Contents

# 1. Safety instructions

Please read the safety instructions before operating the ZZap CS80 to avoid personal injury and damage to the machine.

<table>
<tr>
<td>⚠</td>
<td>

- Take care not to accidently drop metal objects or flammable materials inside the machine.
- Only put coins in the hopper. Do not put your hands, tools, clothes etc., in the hopper.
- Disconnect the power supply before moving the machine to another position.
- Disconnect the power supply before opening the covers of the machine.
- Do not disassemble the machine.
- To prevent an electric shock, do not insert/disconnect the power lead when your hands are wet.
- Do not pull on the power lead when disconnecting the power supply. Instead, grip the plug.
- Do not place heavy objects on the power lead.
- Do not place heavy objects on the machine.
- The machine should be connected to a power supply via the power lead provided.
- Avoid operating the machine in direct sunlight.
- Do not position the machine near heat sources.
- If the machine is expected to be out of service for extended periods of time: disconnect the power supply and close the covers.
- Do not clean the machine using water.

</td>
</tr>
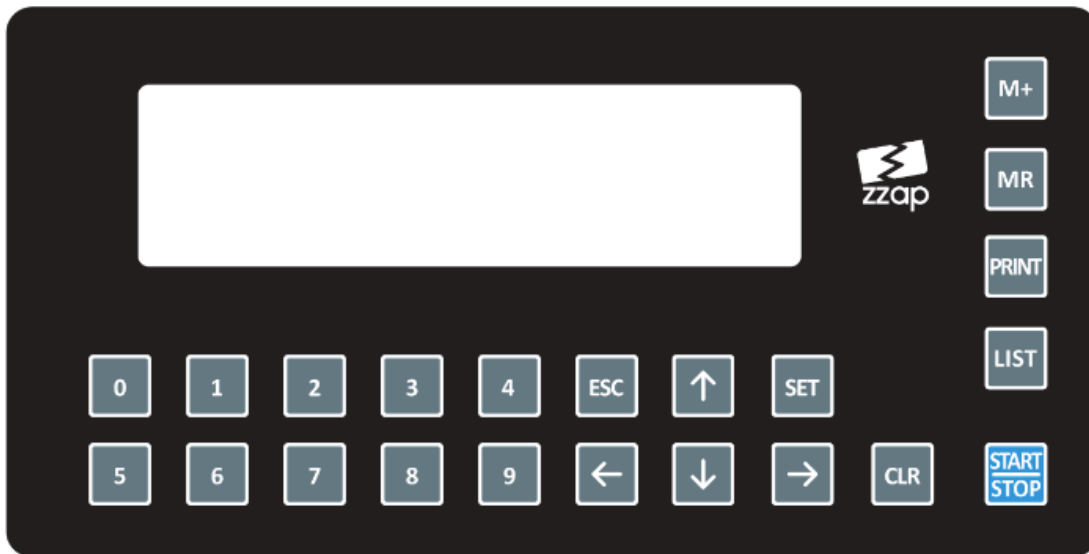</table>

## 2. Introduction

## 2.1 Features

- Counts & sorts 600 coins per minute
- Coin rejection function
- Reports total value and quantity
- Reports total value and quantity per denomination
- Batch and adding function
- Memory function

## 2.2 Package contents

The package includes the following:

- ZZap CS80
- Power lead
- Brush
- Coin feeder

## 2.3 Control panel



**0 – 9:** Used to enter a number.

**START/STOP:** Start or stop counting.

**SET:** Display the settings menu.

**ESC:** Return to menu or clear rejected coin counting result.

**CLR:** Clear relevant data or clear error code.

**Up, left and right arrow:** Used to navigate.

**Down arrow:** Used to navigate or enable/disable batch counting.

**MR:** Display saved counting data.

**M+:** Save counting data.

**LIST:** Display counting result break down.

**Print:** Print counting result or parameters.

Please note: The button function may vary depending on the screen displayed.

## 3. Operating instructions

### 3.1 Self-diagnostic

Plug the power lead into a power supply. Turn the CS80 on at the power switch. The CS80 will begin a self-diagnostic procedure (see below). The self-diagnostic procedure will take approximately 15 seconds to complete.





### 3.2 Main screen

If the CS80 is ready to operate the main screen will be displayed (shown below). If the screen displays an error code refer to '5. Troubleshooting' on page 12.



**MIX-COUNT:** Mixed denomination counting mode.

**RUN/STOP:** Run means the CS80 is counting. Stop means the machine is idle.

**B:** B is displayed if batch counting is enabled. It is not displayed if batch counting is disabled.

**VALUE:** The total value counted.

**QUANTITY:** The total quantity counted.

**R:** The total quantity counted of rejected coins.

## 3.3 Operation

Put the coins in the hopper. Remove any foreign objects. Press the START/STOP button to start counting. Incrementally feed in the coins. Do not overload the machine. When counting is finished the total value and quantity will be displayed (shown below). Foreign/counterfeit coins will be rejected into the end coin tray on the right hand side.

```
MIX- COUNT        STOP
          VALUE:      125.90
          QUANTITY:    190
B                        R:        2
```

When the CS80 stops counting, press the LIST button to display the break down of the counting result (shown below). The left column shows the denomination, the middle column shows the quantity counted for each denomination and the right column shows the value counted for each denomination. Use the up and down arrows to view different denominations.

```
DEN        QUANTITY      VALUE
2.00          50         100.00
0.50          50          25.00
0.01          90           0.90
```

## 3.4 Memory

- To clear the counting result, press the CLR button on the main screen or on the counting result break down screen.
- To clear the rejected coin counting result, press the ESC button on the main screen or on the counting result break down screen.

- To save the counting results (excluding the rejected coins counting result), press the M+ button on the main screen or on the counting result break down screen.
- To display the saved counting results press the MR button.

- In 'LEARN' mode, press the M+ button to save the coin parameters (only available for ZZap engineers).
- In 'LEARN' mode, press the MR button to reset the CS80 to default settings.

## 4. Settings menu

Press the SET button to display the settings menu, shown below.

```
                    MENU

        >  1.BATCH       4.TOTAL
           2.DEN         5.TEST
           3.SYSTEM      6.LEARN
```
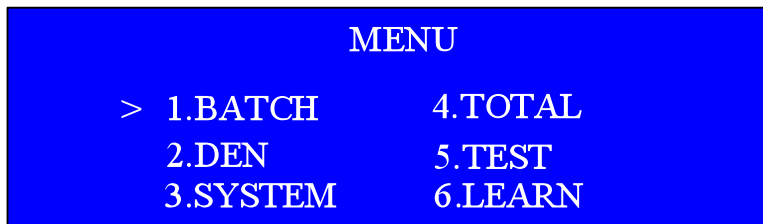
Use the up, down, right and left arrow buttons to select a setting. Once selected, press the SET button.

## 4.1 Batch counting settings

To enable batch counting press the down arrow button on the main screen. The bottom left of the screen will display "B" if batch counting is enabled. To display the batch counting settings, select 'BATCH' in the settings menu. The screen below will be displayed.
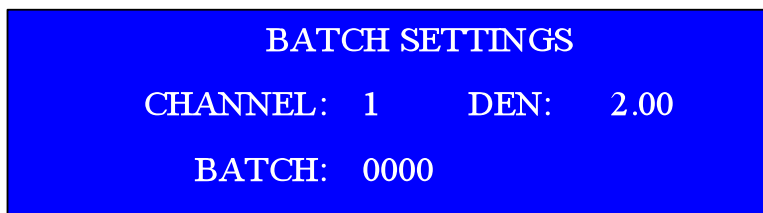
```
              BATCH SETTINGS

        CHANNEL:  1      DEN:    2.00

          BATCH:  0000
```
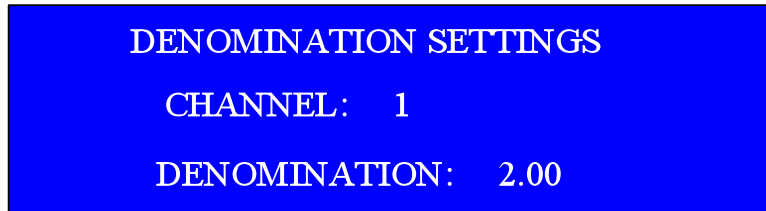
The channel number will flash. To select a channel press the up or down arrow buttons. Once selected, press the SET button. Then use the 0-9 buttons to set the desired batch quantity. If necessary, press the CLR button to clear the batch number. Once the batch number is changed, press the SET button. Then repeat the process for the other channels. Once all the batch quantities are inputted, press the ESC button to return to the settings menu.

When the CS80 counts a batch, the CS80 will automatically stop counting and alert you. Using the example below, the batch quantity was set to 10 for the 2.00 denomination. The warning message "2.00 BATCH OK" will flash. Remove the coins from the relevant tray then press the CLR button to clear the warning message.

```
MIX- COUNT          STOP
             VALUE:        20.00
             QUANTITY:      10
B     2.00 BATCH OK       R:        2
```

## 4.2 Denomination settings

To set the denomination for each coin channel, select 'DEN' in the settings menu. The screen below will be displayed.

DENOMINATION SETTINGS

CHANNEL:    1

DENOMINATION:    2.00

The channel number will flash. To select a channel press the up or down arrow buttons. Once selected, press the SET button. Then use the 0-9 buttons to set the denomination value. If necessary, press the CLR button to clear the denomination value. Once the denomination value is changed, press the SET button. Then repeat the process for the other channels. Once all the denomination values are inputted, press the ESC button to return to the settings menu.

## 4.3 System settings

To display the system settings, select 'SYSTEM' in the settings menu. A submenu will displayed on the screen (shown below).

SYSTEM SETTINGS

> 1.TIME          4.PRINTER
  2.BUZZER        5.MAGNET
  3.DECIMAL
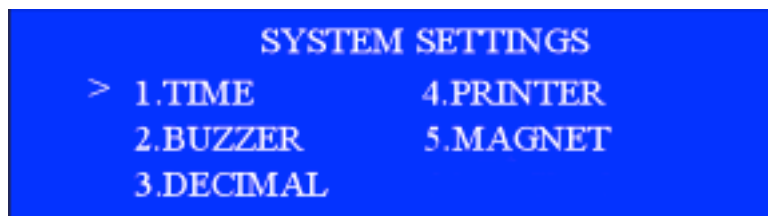
Press the up and down arrow buttons to select a setting. Once selected, press the SET button.

## 4.3.1 Time

To alter the date and time, select 'TIME' in the system settings submenu. The screen below will be displayed.

>DATE:  2013-08-29
 TIME:      05:44:32

Press the 'SET' button. Then use the right arrow button to scroll. Use the 0-9 buttons to set the desired date/time. If necessary, press the CLR button to clear the data. Once the settings have been altered, press the ESC button to return to the settings menu.

## 4.3.2 Buzzer

When a button is pressed there is an audio confirmation called the Buzzer. To turn the Buzzer on/off, select 'BUZZER' in the system settings submenu. The screen below will be displayed.
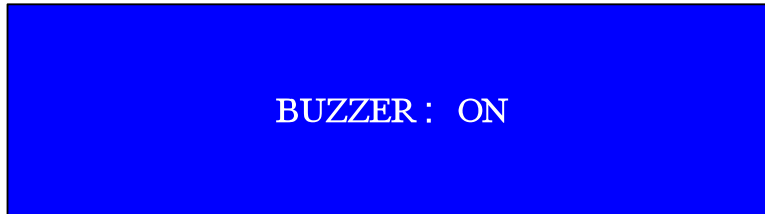
BUZZER :   ON

Press the up and down arrow buttons to turn the Buzzer on or off. Once the setting has been altered, press the ESC button to return to the settings menu.

## 4.3.3 Decimal places

To turn decimal places on/off, select 'DECIMAL' in the system settings submenu. The screen below will be displayed.

DECIMAL PLACES :   ON

Press the up and down arrow buttons to turn decimal places on or off. Once the setting has been altered, press the ESC button to return to the settings menu.

## 4.3.4 Printer

To alter the printer settings, select 'PRINTER' in the system settings submenu. The screen below will be displayed.

>PRINTER :    ON
BAUD :    9600
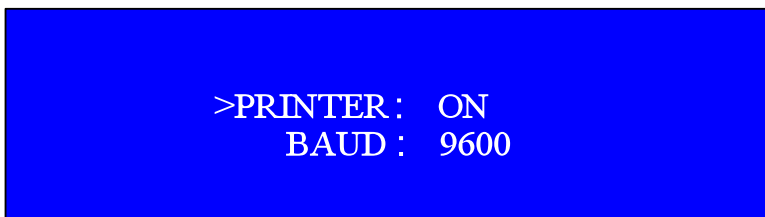
Press the up and down arrow buttons to select 'PRINTER' or 'BAUD'. Once selected, press the SET button. Press the up and down arrow buttons to alter the function. Once the settings have been altered, press the ESC button to return to the settings menu.

If "PRINTER" is set as "ON", the PRINT button is enabled. Press the PRINT button on the relevant screen to print the data. If "PRINTER" is set as "OFF", the PRINT button is disabled.

The "BAUD" rate should be altered according to the printer setup.

## 4.3.5 Magnet

This setting is for ZZap engineers. To display the magnet settings, select 'MAGNET' in the system settings submenu. The screen below will be displayed.



Press the up and down arrow buttons to increase or decrease the solenoid activation time. Once the settings have been altered, press the ESC button to return to the settings menu.

## 4.4 Total count history

To display the total count history, select 'TOTAL' in the settings menu. The screen will display the total quantity of coins the CS80 has counted over its lifetime. In the example below, 17,331 coins have been counted over its lifetime. Press the ESC button to return to the settings menu.
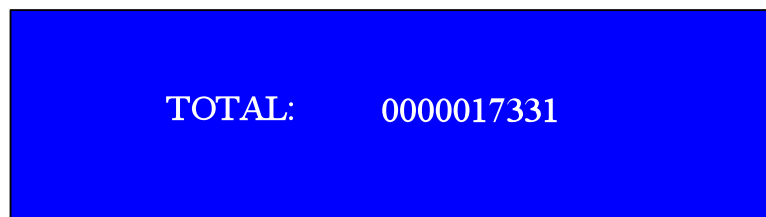


## 4.5 Test

This setting is for ZZap engineers.

## 4.6 Learn

This setting is for ZZap engineers.

## 5. Troubleshooting

An error code may be displayed during the self-diagnostic procedure or while operating. The different error codes and their explanations/solutions are below. Disconnect the power supply before carrying out repairs/maintenance. To clean the sensors/parts use the brush provided. If you are unsure how to carry out the applicable repairs/maintenance, contact ZZap.
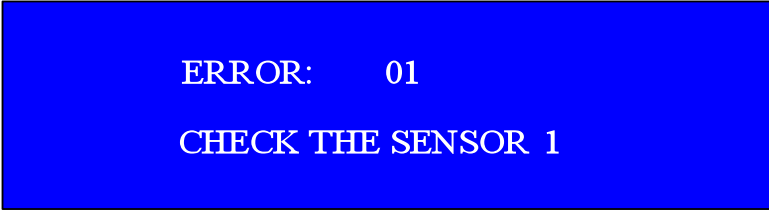
## 5.1 ERROR: ADJUST

"ERROR: ADJUST" means the alloy sensor is malfunctioning. Contact ZZap engineering.

```
ERROR:      ADJUST

CHECK THE SENSOR  0
```

## 5.2 ERROR: 01

"ERROR: 01" means the alloy sensor IR pipe is blocked. Check and clean the part. Make sure the wiring is fully connected and in good condition. Press the CLR button to return to the main screen.

```
ERROR:     01

CHECK THE SENSOR  1
```

## 5.3 ERROR: 04

"ERROR: 04" means the rail sensor is malfunctioning or blocked. Remove any jammed coins on the rail. Clean the rail to remove dust and dirt. Make sure the rail sensor wiring is fully connected and in good condition. Press the CLR button to return to the main screen.

```
ERROR:     04

CHECK THE SENSOR  4
```

## 5.4 ERROR: 05

"ERROR: 05" means the applicable coin tray is full or the applicable coin tray sensor is malfunctioning. Check the coin tray and remove the coins if necessary. Check the applicable coin tray sensor wiring is fully connected and in good condition. Press the CLR button to return to the main screen.

```
Error :     05

CHANNEL :  1,2,3
```
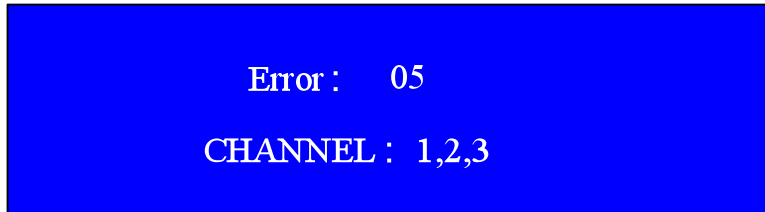
## 5.5 TRAY FULL

The screen below will be displayed if a coin tray is full. In this example tray 2 is full. Remove the coins from relevant tray. Press the CLR button to return to the main screen.

```
WARNING
TRAY:2 FULL
PLEASE EMPTY THE TRAY
```
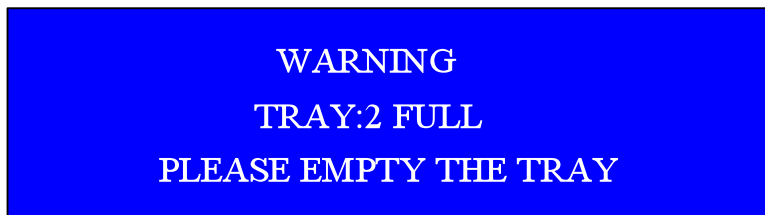
## 6. Maintenance

Disconnect the power supply before carrying out maintenance. Maintenance should be carried out on a daily basis. Do not clean the machine using water.

1.  Clean the hopper with the brush provided to remove dust, dirt and foreign objects.

2.  Open the front cover and window cover.

3.  Clean the rail, side board, fixing disk and grinding plate using the brush provided and and/or use a piece of cloth with a small amount of alcohol based cleaner to remove dust, dirt and foreign objects.

4.  Rotate the disk and use the brush provided and/or use a piece of cloth with a small amount of alcohol based cleaner to remove dust, dirt and foreign objects.

5.  Blow air between the alloy sensor and side board to remove dust, dirt and foreign objects. If necessary clean the sensor using a piece of cloth with a small amount of alcohol based cleaner. Keep the sensor clear of sharp and hard articles to avoid damage.

6.  Close the front cover and window cover.
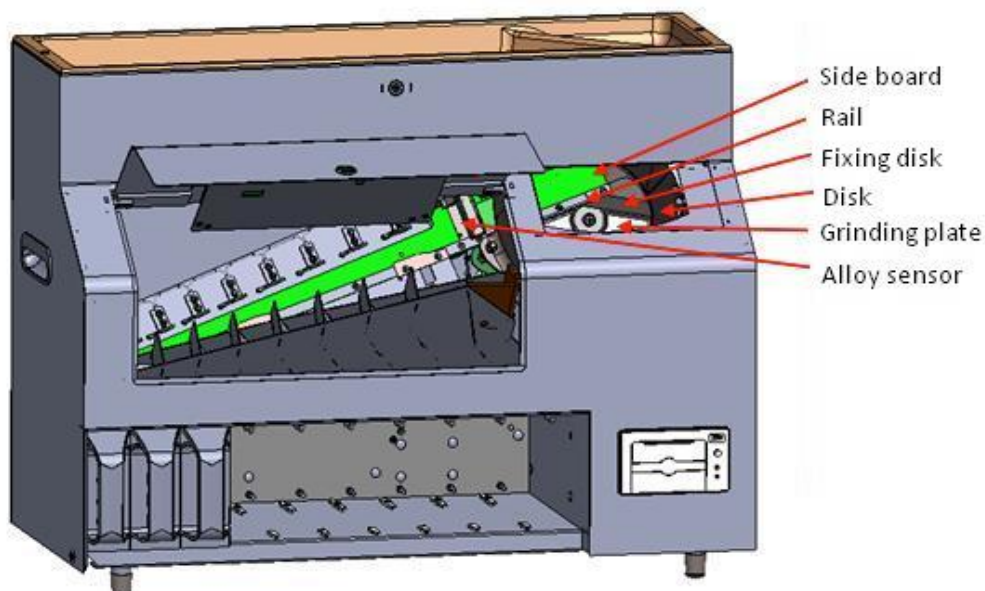
## 7. Specifications

- Operating temperature range: 0 ~ 40°C
- Operating humidity range: 30 ~ 75%
- Hopper capacity: Max. 7,000 coins
- Tray capacity: Max. 1,100 coins
- Display type: LCD
- Power source: AC220V ±10% /50Hz or AC120V ±10%  /60Hz
- Power consumption: 60W
- Dimensions: 673 x 313 x 506 mm
- Net weight: 32 KG
- Counting speed: 600 coins/minute

If the machine has a fault that you are unable to resolve, please contact your local ZZap dealer.

Products are subject to change without further notice.