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Bill Recycler

# BR2300

Installation Guide



**International Currency Technologies Corp.**

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## **1. Introduction**

### **1-1. Overview**

The New Bill Recycler - BR2300 is equipped with a large capacity recycling unit and cash box. It is a total solution for bill transactions and greatly increases the efficiency in which change is given.

The BR2300 is equipped with innovative wide- angle banknote insertion technology to offer a superior acceptance rate of 96% or higher. With an outstanding design, the BR2300 has the ability to provide a very high degree of immunity to strong ambient light, and the advanced optical/mechanical anti-fishing structure for better investment protection. The built-in USB port allows convenient firmware upgrades via USB flash drive.

### **1-2. Features**

- A total solution for bill transactions.
- Large capacity recycling unit.
- Unique very wide-angle banknote insertion technology.
- High immunity against strong ambient light.
- Advanced optical/mechanical anti-fishing structure.
- Convenient firmware upgrade via USB flash drive.
- MDB-FTL firmware upgrade available.
- Auto-calibration technology and multi-color optical sensor.
- Strong resistant to severe weather condition.

## 2. Specifications

|  |  |
|--|--|
| <b>Validation rate</b>   | 96% or higher  |
| <i>Note: The acceptance rate excludes notes that are dirty, wet, broken or wrinkled.</i> |  |
| <b>Bill width validated</b>  | 62~77mm  |
| <b>Bill Insertion</b>  | 4 - way Acceptance   |
| <b>Escrow</b>  | 1 bill   |
| <b>Transaction Speed</b>   | 4 seconds to Recycler<br>5 seconds to Bill Box   |
| <b>Interfaces</b>  | MDB, ccTalk, RS232   |
| <b>Power Sources</b>   | DC 12V<br>DC 24V<br>DC 34V   |
| <b>Power Consumption</b>   | Standby: 350mA, 4.2W<br>Operation: 2.5A, 30W<br>Maximum: 4A, 48W   |
| <b>Environment</b>   | Operating Temperature : 0°C~60°C<br>Storage Temperature : -30°C~70°C<br>Humidity : 30%~95% RH<br>(no condensation) |
| <b>Firmware Updates</b>  | USB flash disk, MDB-FTL  |
| <b>Bill Box Capacity</b>   | Bill box: 300 bills<br>600 bills<br>1000 bills<br>Recycler: 30 bills<br>(CNY: 50 bills)                            |

# BR2300

---

## **Weight**

300 bills: Approx.3.5kg

600 bills: Approx.3.9kg

1000 bills: Approx.4.4kg

## **3. Packing List**

### **Main**

Bill Recycler

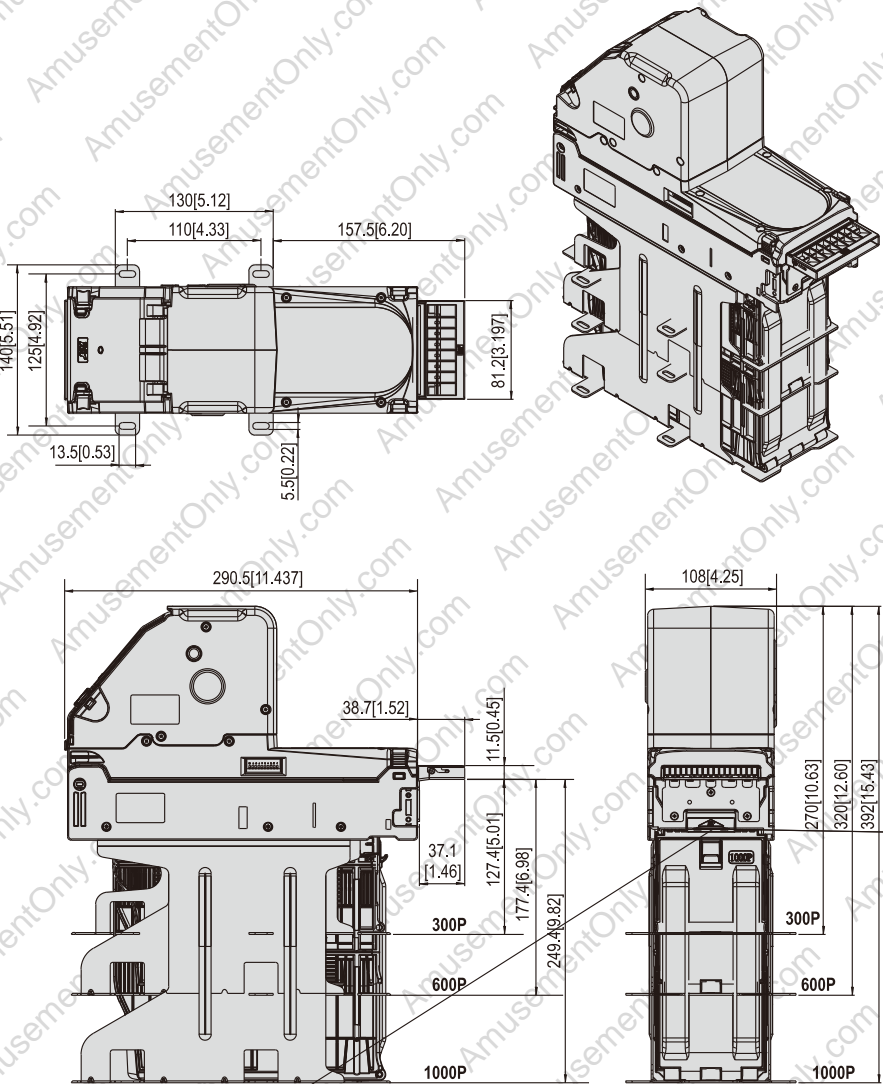
### **Accessory**

Harnesses: Refer to 5-1

BR2300 Installation Guide

BR2300 DIP Switch Setting Guide

### 4. Dimension



Unit : mm [inch]

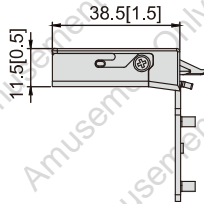
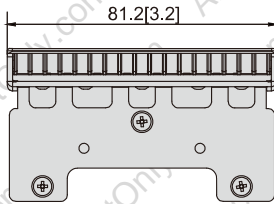
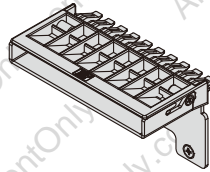
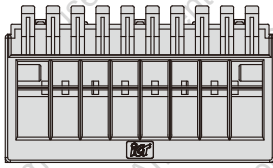
4 FIG.01

# BR2300

## Bezel Style

Rectangle Bezel

Part Number: 3ZMB-FAC50000

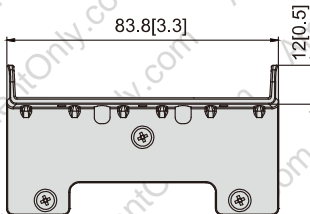
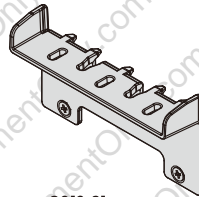


Unit : mm [inch]

4 FIG.02

Metal Short Bezel

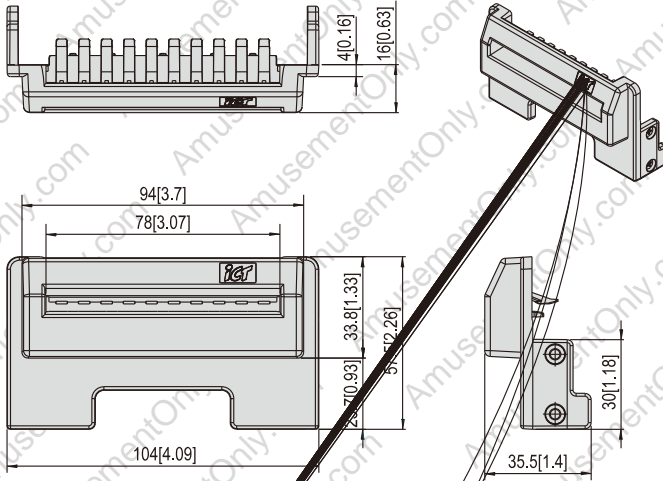
Part Number: 3ZMB-FAC60000



Unit : mm [inch]

4 FIG.03

Plastic Short Bezel  
Part Number: 3ZMB-FAC61000



Unit : mm [inch]

4 FIG.04

## 5. Installation

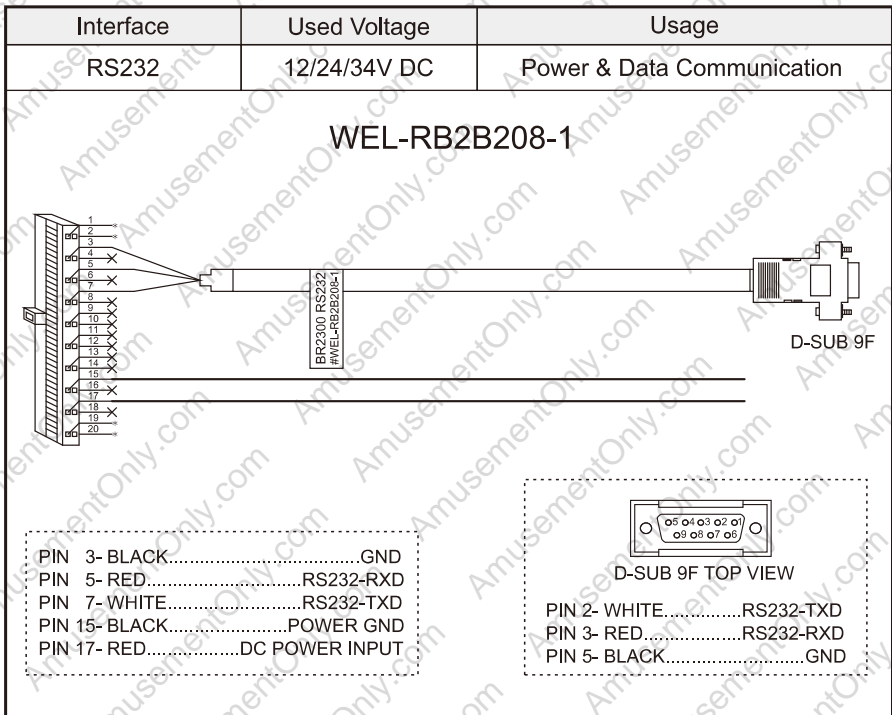
### 5-1. Harness Application

5-1 TABLE.01

| Interface    | Used Voltage   | Usage               | Harness                | Page |
|--------------|----------------|---------------------|------------------------|------|
| RS232        | 12/ 24/ 34V DC | Power & *Data Comm. | WEL-RB2B208-1          | 8    |
| MDB          |                |                     | WEL-RB2B209            | 9    |
| ccTalk       | 12/ 24V DC     |                     | WEL-RB2B206-1          | 10   |
| MDB          | 12/ 24/ 34V DC |                     | WEL-RB2B217(Optional)  | 11   |
| USB Download | -              | USB Extension Wire  | WEL-RX7P02-1(Optional) | 12   |

\*Data Comm. : Data Communication.

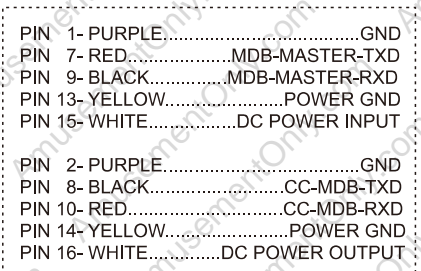
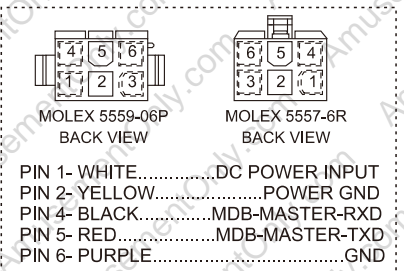
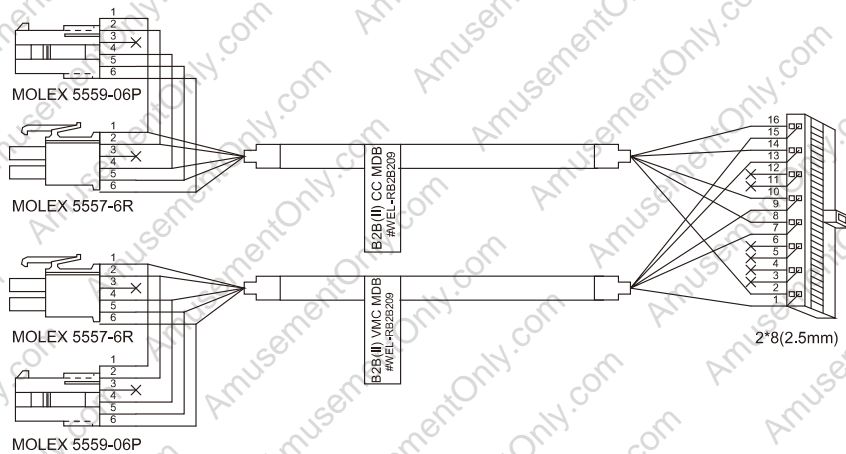
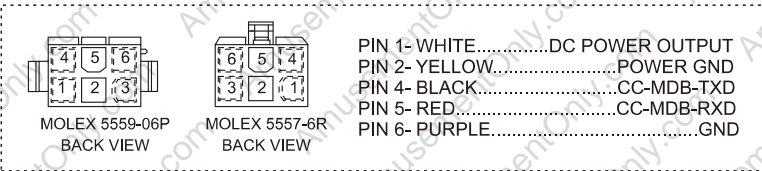
5-1 FIG.01



5-1 FIG.02

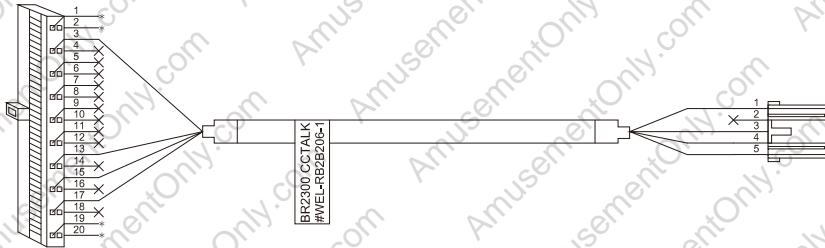
| Interface | Used Voltage | Usage                      |
|-----------|--------------|----------------------------|
| MDB       | 12/24/34V DC | Power & Data Communication |

## WEL-RB2B209



| Interface | Used Voltage | Usage                      |
|-----------|--------------|----------------------------|
| ccTalk    | 12/24V DC    | Power & Data Communication |

## WEL-RB2B206-1



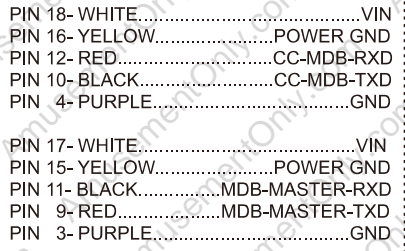
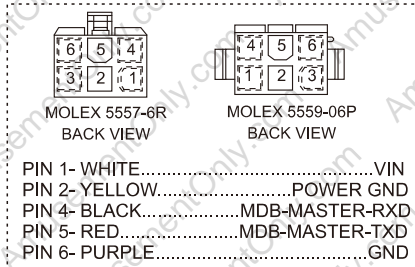
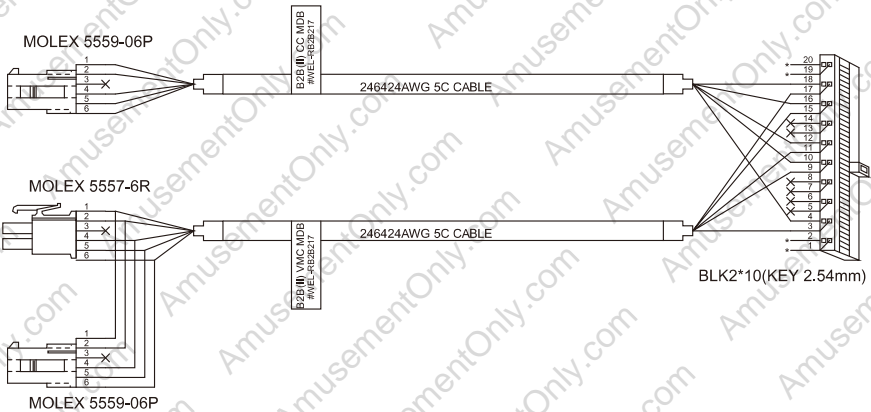
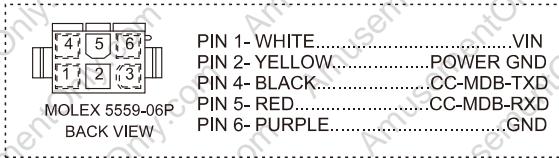
PIN 3- BLACK.....GND  
 PIN 13- YELLOW.....DATA  
 PIN 15- WHITE.....POWER GND  
 PIN 17- RED.....DC POWER INPUT

PIN 1- RED.....DC POWER INPUT  
 PIN 3- YELLOW.....DATA  
 PIN 4- BLACK.....GND  
 PIN 5- WHITE.....POWER GND

5-1 FIG.04

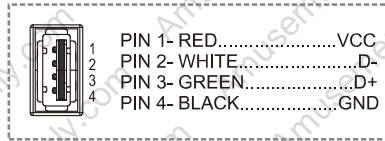
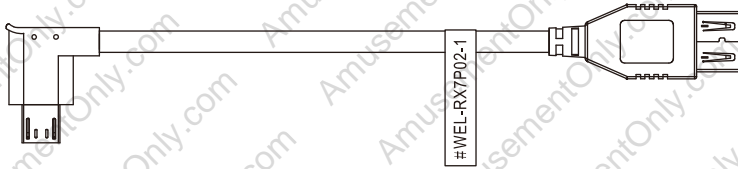
| Interface | Used Voltage | Usage                      |
|-----------|--------------|----------------------------|
| MDB       | 12/24/34V DC | Power & Data Communication |

## WEL-RB2B217 (Optional)



| Interface    | Used Voltage | Usage              |
|--------------|--------------|--------------------|
| USB Download | -            | USB Extension Wire |

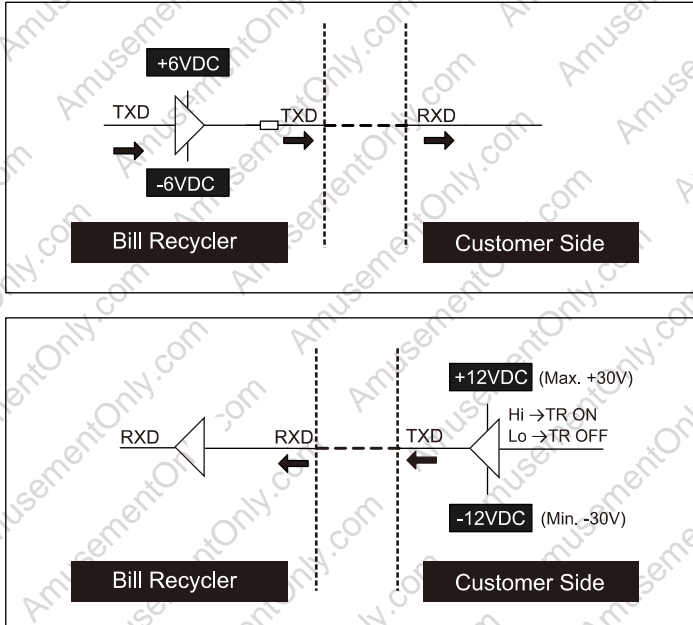
## WEL-RX7P02-1 (Optional)



### 5-1-1. I/O Circuit

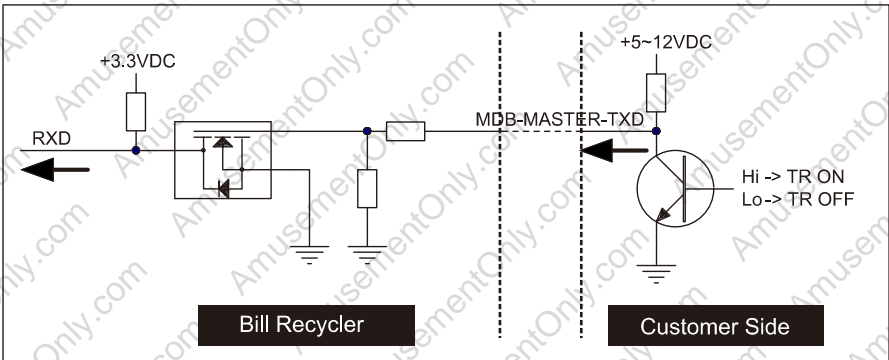
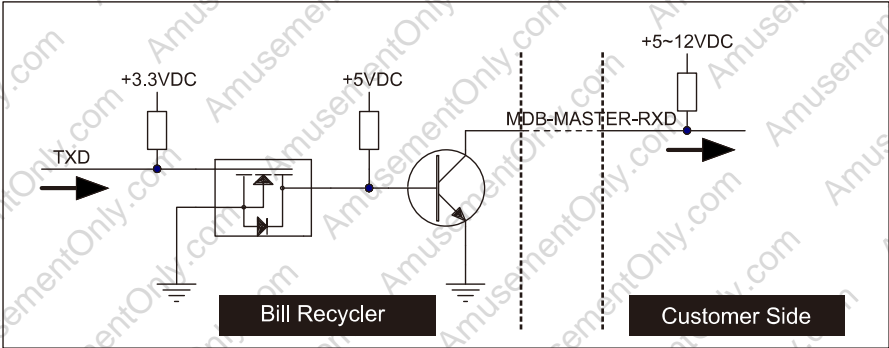
#### RS232 Interface

5-1-1 FIG.01



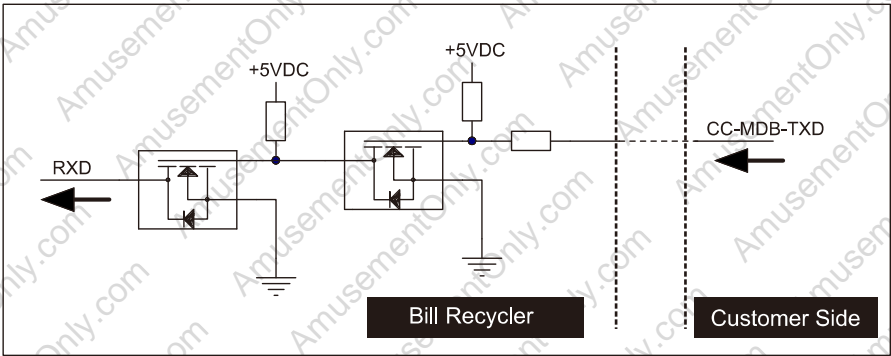
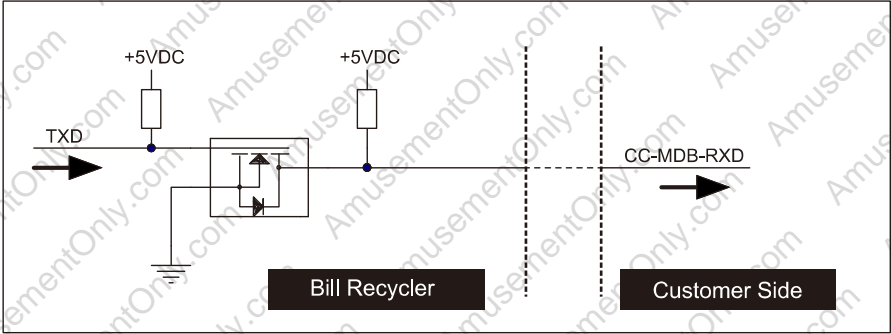
## MDB Interface (To VMC).

5-1-1 FIG.02



MDB Interface(To Coin Changer).

5-1-1 FIG.03

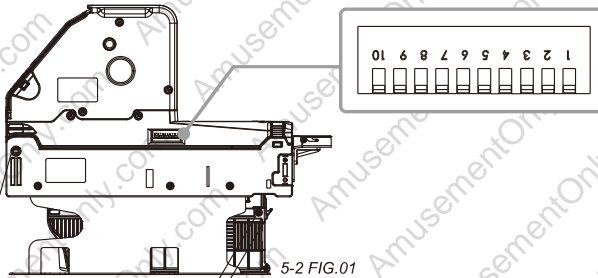




## 5-2. DIP Switch Setting

There's a serial DIP switches which is located on the side of BR2300. According to different currencies or interfaces which are used by users, DIP switch settings could be varied to fit users' need.

Please refer to "BR2300 DIP Switch Setting" Guide in the package for more detail.



## 5-3. Firmware Download and Upgrade

### 5-3-1. USB Pen Drive Firmware Upgrade

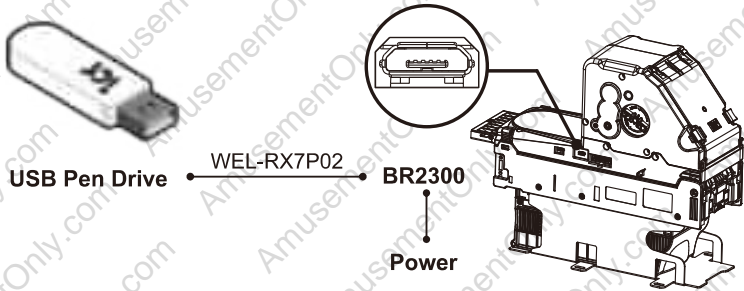
**Step 1.**

Put the "BTBxxxxxx.bin" file into your USB Flash Disk.



## Step 2.

Turn off BR2300, plug the USB Flash Disk into the USB connector on the BR2300 with USB extension cable and then turn on the BR2300.



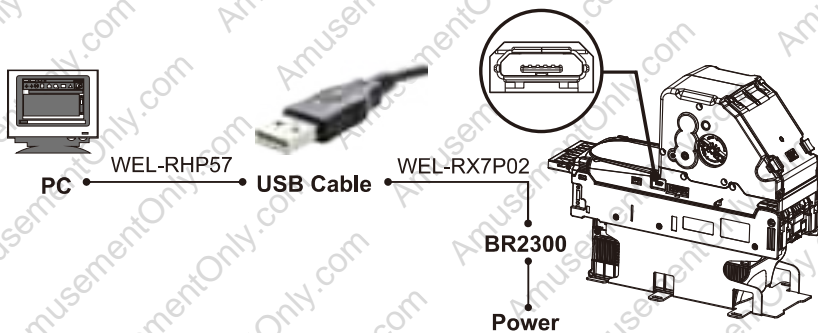
## Step 3.

The LED in the front side of bezel will flash twice, then remove the USB Flash Disk from BR2300.

## Step 4.

Wait for about 30sec., then BR2300 will automatically reset and standby for normal operation.

## 5-3-2. USB Cable Firmware Upgrade

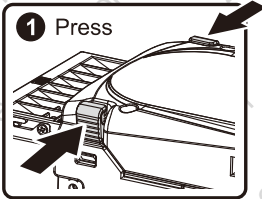


## 6. Maintenance

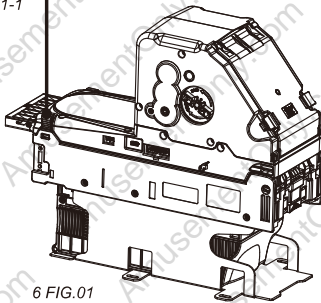
To make sure the bill recycle always works smoothly, please clean the internal parts regularly.

To clean the internal parts:

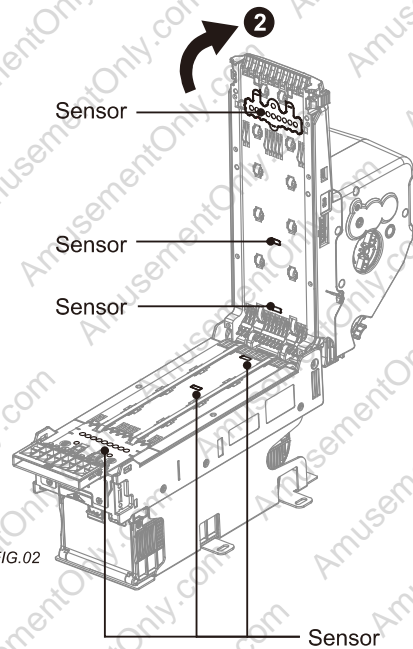
1. Turn bill recycle off.
2. Press the buttons on the side of BR2300 cover and lift the unit .
3. Use a soft, dry cloth, or towel to clean the bill path and sensors.




6 FIG.01-1



6 FIG.01



6 FIG.02

|   |   |  |
|---|---|--|
|  | <b>Maintenance Notice</b>                                       |  |
|   | <i>(Any improper maintenance will result invalid warranty.)</i> |  |
|   | <b>Recommended</b>  | <b>Mild, non-abrasive, soap water.</b>             |
|   | <b>DO NOT USE</b>   | <b>Organic solvent , Alcohol, Volatile liquid.</b> |

## 7. Troubleshooting

### 7-1. Bezel LED Errors

7-1 TABLE 01

| LED   | Meaning                | Solutions   |
|-------|------------------------|---|
| Green | White card Calibration | Use ICT white card to calibration Bill Validator. |

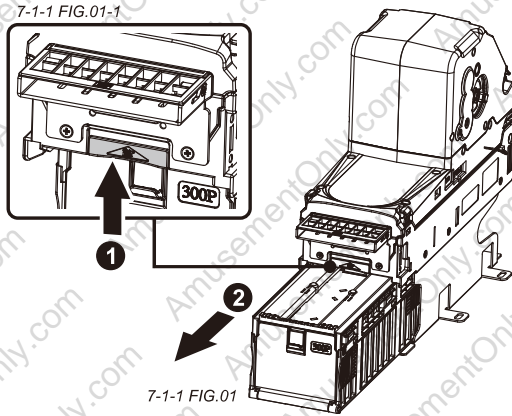
7-1 TABLE 02

| LED Flashes |       | Meaning   | Solutions  |
|-------------|-------|---|--|
| Red         | Green |   |  |
| 1           |       | Indicate that something has jammed the bill path.           | Inspect for foreign object or banknote. (Refer to page 21 & 22)                          |
| 2           |       | Indicate that bill acceptor is not enable.                  | Please inspect dip switch setting.   |
| 3           |       | Indicate that bill acceptor is having input sensor problem. | Please inspect or clean any foreign object on sensor or on bill path. (Refer to page 19) |
| 3           | 1     | Optical anti fishing sensor module error                    | Remove LED housing:<br>Inspect for foreign object and clean on Security hook.            |
| 3+2         |       | Indicates that the unit is having hook sensor problem.      |  |
| 3+4         |       | Banknote path sensor error                                  |  |
| 4           |       | Indicates that the unit has detected fishing issue.         | Inspect for dirt or foreign object on sensor or on bill path. (Refer to page 19)         |
| 5           |       | Stacker open  | Stacker removed.   |
| 5           | 1     | Recycle motor problem                                       | Clean foreign object from inside of Recycler. (Refer to page 22)                         |
| 5           | 3     | Recycle sensor problem                                      |  |
| 5           | 2     | Recycle bill jam  |  |
| 5           | 4     | Recycle full problem  | Confirm that the Mylar in Recycle is the end.  |
| 6           |       | Stacker problem   | Stacker full of banknote or the press banknote module error.                             |
| 7           |       | Indicates that the unit is having motor problem.            | Inspect for dirt or foreign object on sensor or on bill path.                            |

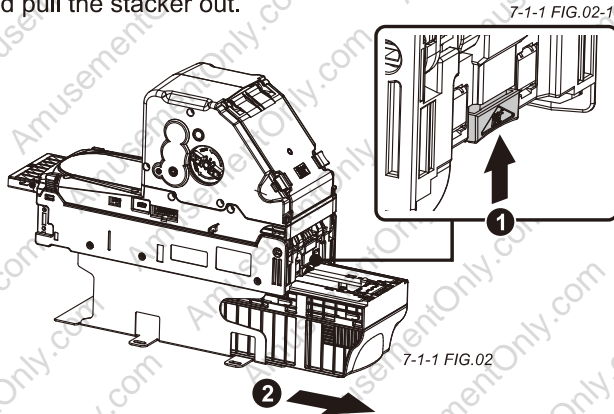


**If the error can not be solved after corrective actions or it recurs, please contact ICT for technical support.**

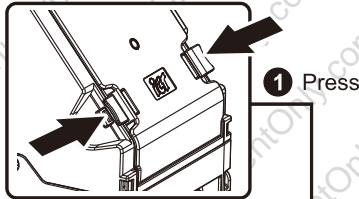
### 7-1-1. Removing stacker jammed banknote.



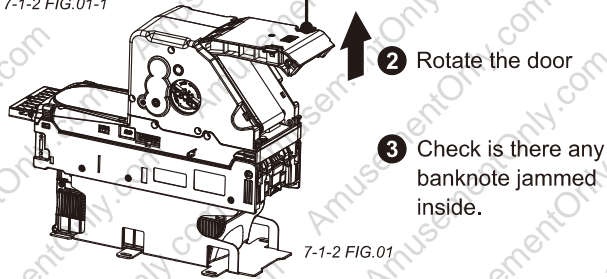
To remove the stacker from front or rear, you only need to press the white button and pull the stacker out.



## 7-1-2. Removing recycler jammed banknote.

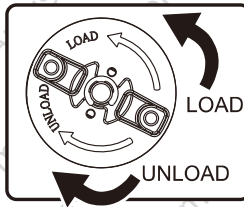


7-1-2 FIG.01-1

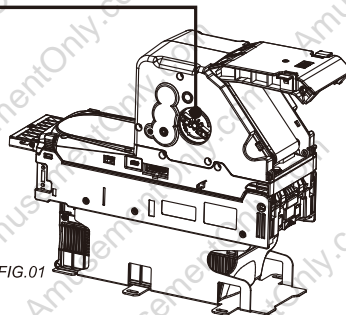


7-1-2 FIG.01

## 7-1-3. Rotate the wheel to remove the jammed banknote.



7-1-3 FIG.01-1



7-1-3 FIG.01



**Having the incident of banknote jam in the recycler, be sure to take out all the notes in it so that in the next operating act, the counting of banknotes could remain correct in the recycler.**

BR2300



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