ICT

Bill Acceptor

# BS7

## Installation Guide

International Currency Technologies Corp.

## Use of Materials Limitations



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# Contents

# 1. Introduction

## 1-1. Overview

BS7 is a bill acceptor which features not only high-security module with bill box but also outstanding recognition, acceptance rate up to 96% or even greater.

## 1-2. Features

- Four way bill insertion acceptance.
- Numerous interfaces available.
- Easily Install & Maintain.
- High Acceptance Rate up to 96%.

# 2. Specifications

***General***

| | |
|---|---|
| **Acceptance Rate** | 96% or greater |

*Note: The incomplete bills such as extremely dirty, wet, broken or wrinkled ones are excluded.*

| | |
|---|---|
| **Bill Insertion** | Four-way acceptance |
| **Transaction Speed** | Approx. 3 seconds to stack |
| **Interface** | Pulse, ICT Protocol, MDB, GPT Parallel |

**Installation: Indoor use only!!**

***Electrical***

| | |
|---|---|
| **Power Source** | 12V DC (11.4~12.6V DC)<br>24V AC (21.6~26.4V AC)<br>34V DC (20V~42.5V DC) |
| **Power Consumption** | 12V DC- Standby: 0.41A, 5W<br>Operation: 2A, 24W<br>Maximum: 3A, 36W |
| **Operation Environment** | Operation Temperature: 0°C~55°C<br>Storage Temperature: -30°C~70°C<br>Humidity: 30%~85RH<br>(no condensation) |

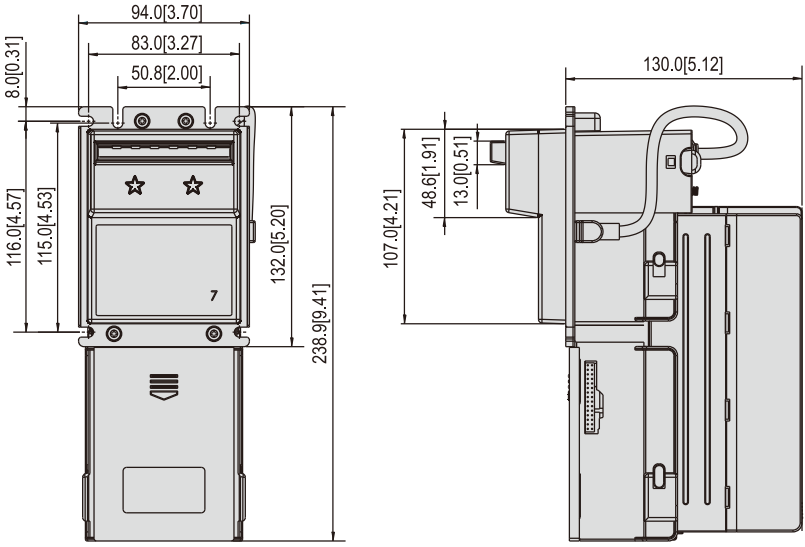
***Mechanical***

| | |
|---|---|
| **Outline Dimension** | Refer to page.4 |
| **Bill Capacity** | Approx. 400 bills (350~450) |
| **Weight** | Approx. 1.25kg |

## 3. Packing List

| | |
|---|---|
| **Main** | Bill Acceptor |
| **Accessory** | Harnesses: Refer to **5-1**<br>BS7 Installation Guide<br>BS7 DIP Switch Setting Guide |

# 4. Dimension




**Unit : mm [inch]**

*4 FIG.01*

# 5. Installation

## 5-1. Harness Application

*5-1 TABLE 01*

| Interface | Used Voltage | Usage | Harness | Page |
|---|---|---|---|---|
| Standard Pulse | 12V DC | Power & *Data Comm. | WEL-RV701 | 6 |
| | | Extension Wire | CU-R961-1 | 7 |
| | 24V AC | Power & *Data Comm. | WEL-RV703 | 8 |
| | | Extension Wire | WEL-RV702 | 9 |
| MDB | 34V DC | Power & *Data Comm. | WEL-RM006 | 10 |
| ICT Protocol (RS232) | 12V DC | Power | WEL-RV701 | 6 |
| | | Extension Wire | CU-R961-1 | 7 |
| | | *Data Comm. | WEL-RV706-1 or 2-BA-RV706 | 11 |
| GPT Parallel | 24V AC | Power & *Data Comm. | **5RBG-AA203L1-XX | 12 |

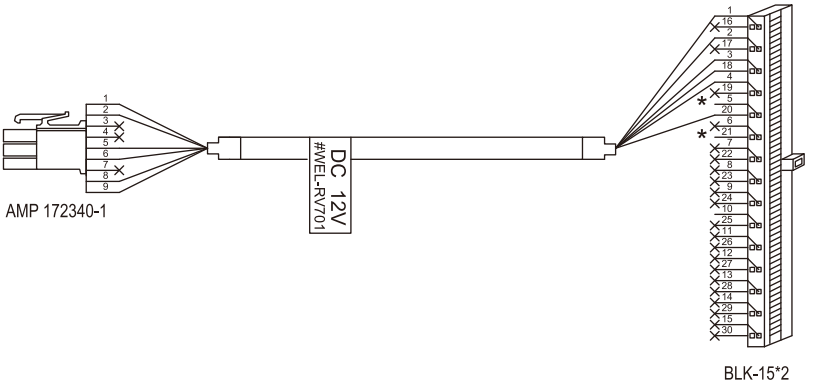
*Data Comm.: Data Communication.

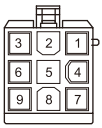
**5RBG-AA203L1-xx: Plug-in Box & Cables, “XX” varies from version to version.

*5-1 FIG. 01*

| Interface | Used Voltage | Usage |
|---|---|---|
| Pulse | 12V DC | Power & *Data Comm. |

## WEL-RV701



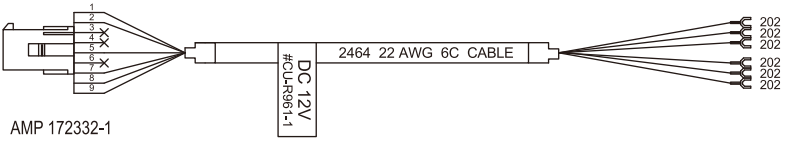

PIN 1- YELLOW.....INHIBIT+
PIN 2- GREEN.....INHIBIT-
PIN 3- RESERVED
PIN 4- RESERVED
PIN 5- RED.....12V DC (POWER)
PIN 6- RESERVED
PIN 7- BLUE.....CREDIT_RELAY (N.O.)
PIN 8- PURPLE.....CREDIT_RELAY (COMMON)
PIN 9- ORANGE.....GND (POWER)

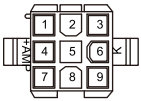
PIN 1- PURPLE.....CREDIT_RELAY (Common)
PIN 2- BLUE.....CREDIT_RELAY ( N.O.)
PIN 3- RED.....12VDC (POWER)
PIN 4- YELLOW.....INHIBIT+
PIN 18- GREEN.....INHIBIT-
PIN 20- ORANGE .....GND (POWER)

*5-1 FIG. 02*

| Interface | Used Voltage | Usage |
|---|---|---|
| Pulse | 12V DC | Extension Wire for WEL-RV701 |
| ICT Protocol (RS232 ) | 12V DC | Extension Wire for WEL-RV701 |

## CU-R961-1



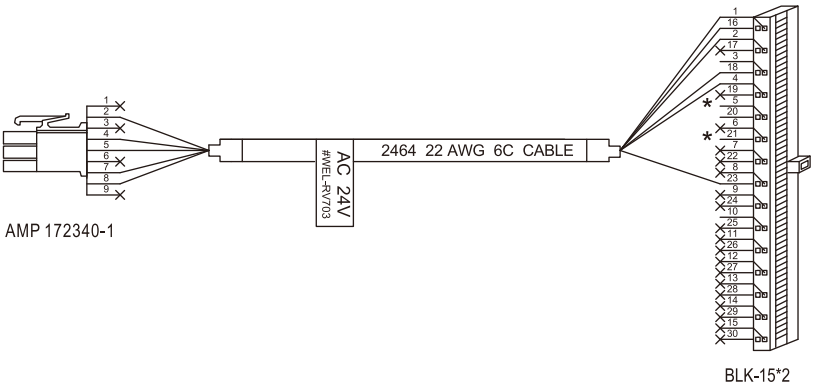

AMP 172332-1
BACK VIEW

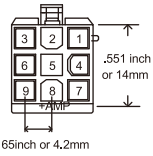
PIN 1- YELLOW.....INHIBIT+
PIN 2- GREEN.....INHIBIT-
PIN 5- RED.....+12VDC(POWER-IN)
PIN 7- BLUE.....CREOIT-RELAY-NO
PIN 8- PURPLE.....CREDIT-RELAY-COM
PIN 9- ORANGE.....GND(POWER-IN)

*5-1 FIG. 03*

| Interface | Used Voltage | Usage |
|---|---|---|
| Pulse | 24V AC | Power & *Data Comm. |

## WEL-RV703




AMP 172340-1
BACK VIEW

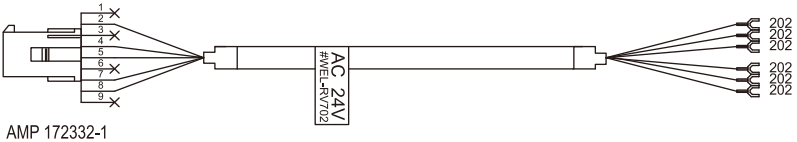
PIN 1- RESERVED
PIN 2- YELLOW.....INHIBIT+
PIN 3- RESERVED
PIN 4- BLUE.....CREDIT_RELAY (N.O.)
PIN 5- PURPLE & GREEN
.....CREDIT_RELAY (COMMON)
PIN 5- INHIBIT-
PIN 6- RESERVED
PIN 7- ORANGE.....24V AC (RET)
PIN 8- RED.....24V AC (HOT)
PIN 9- RESERVED

PIN 1- PURPLE.....CREDIT_RELAY (Common)
PIN 2- BLUE.....CREDIT_RELAY (N.O.)
PIN 4- YELLOW.....INHIBIT+
PIN 16- ORANGE.....24V AC (RET)
PIN 18- GREEN.....INHIBIT
PIN 23- RED.....24V AC (HOT)

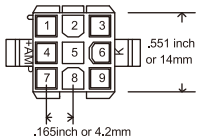
5-1 FIG. 04

| Interface | Used Voltage | Usage |
|---|---|---|
| Pulse | 24V AC | Extension Wire for WEL-RV703 |

## WEL-RV702




AMP 172332-1




AMP 172332-1
BACK VIEW

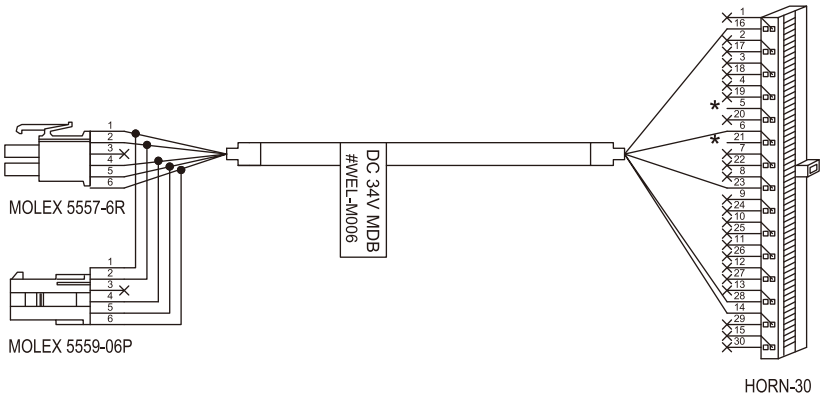
PIN 1- RESERVED
PIN 2- YELLOW.....INHIBIT+
PIN 3- RESERVED
PIN 4- BLUE.....CREDIT_RELAY (N.O.)
PIN 5- PURPLE & GREEN.....CREDIT_RELAY (COMMON)
PIN 5- PURPLE & GREEN.....INHIBIT
PIN 6- RESERVED
PIN 7- ORANGE.....24V AC (RET)
PIN 8- RED.....24V AC (HOT)
PIN 9- RESERVED

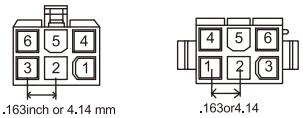
YELLOW.....INHIBIT+
BLUE.....CREDIT_RELAY (N.O.)
PURPLE.....CREDIT_RELAY (Common)
GREEN.....CREDIT_RELAY (Common)
ORANGE.....24V AC (RET)
RED.....24V AC (HOT)

*5-1 FIG. 05*

| Interface | Used Voltage | Usage |
|---|---|---|
| MDB | 34V DC | Power & *Data Comm. |

## WEL-RM006



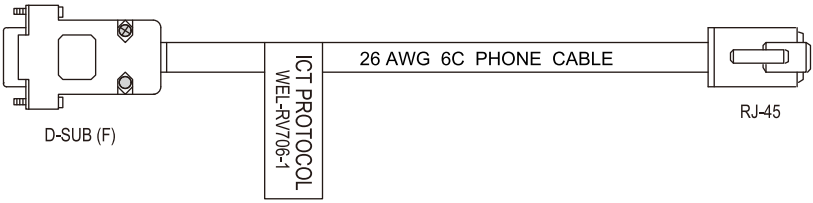

PIN 1- BLUE.....34VDC
PIN 2- YELLOW.....34VDC POWER RETURN
PIN 3- N/C
PIN 4- ORANGE.....MASTER RECEIVE
PIN 5- RED.....MASTER TRANSMIT
PIN 6- GREEN.....COMMUNICATIONS COMMON

PIN 6- ORANGE.....MASTER RECEIVE
PIN 14- RED.....MASTER TRANSMIT
PIN 16- YELLOW.....34VDC POWER RETURN
PIN 23- BLUE.....34VDC
PIN 28- GREEN.....COMMUNICATIONS COMMON

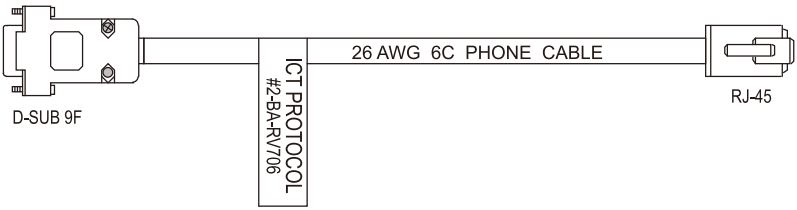
*5-1 FIG. 06*

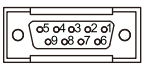
| Interface | Used Voltage | Usage |
|---|---|---|
| ICT Protocol (RS232 ) | 12V DC | *Data Comm. |

## WEL-RV706-1



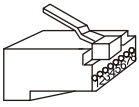

## 2-BA-RV706




D-SUB 9F TOP VIEW

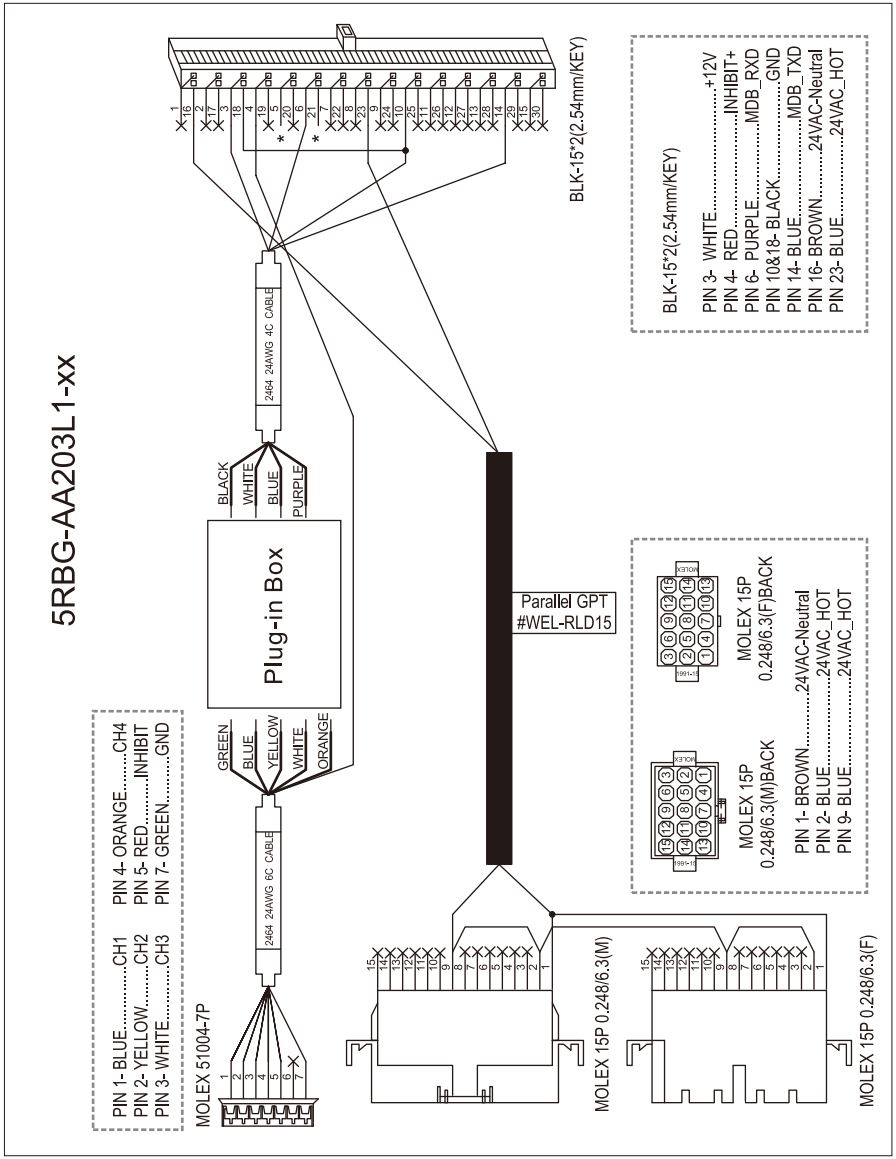
PIN 1- RESERVED
PIN 2- RXD
PIN 3- TXD
PIN 4- RESERVED
PIN 5- GND
PIN 6- RESERVED
PIN 7- RESERVED
PIN 8- RESERVED
PIN 9- RESERVED



RJ-45 VIEW

PIN 1- BLUE.....GND
PIN 2- YELLOW.....TX22
PIN 3- GREEN.....RX22
PIN 5- RESERVED
PIN 6- RESERVED
PIN 6- RED.....VCC
PIN 7- BLACK.....RX11
PIN 8- WHITE.....TX11

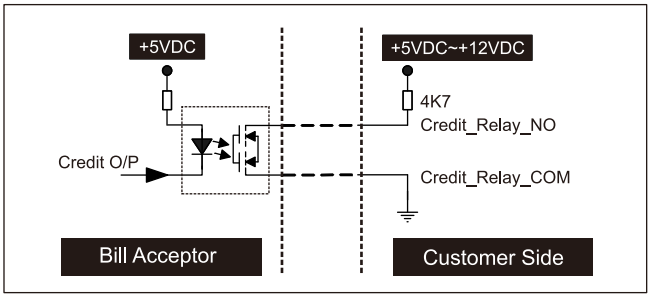
5-1 FIG. 07

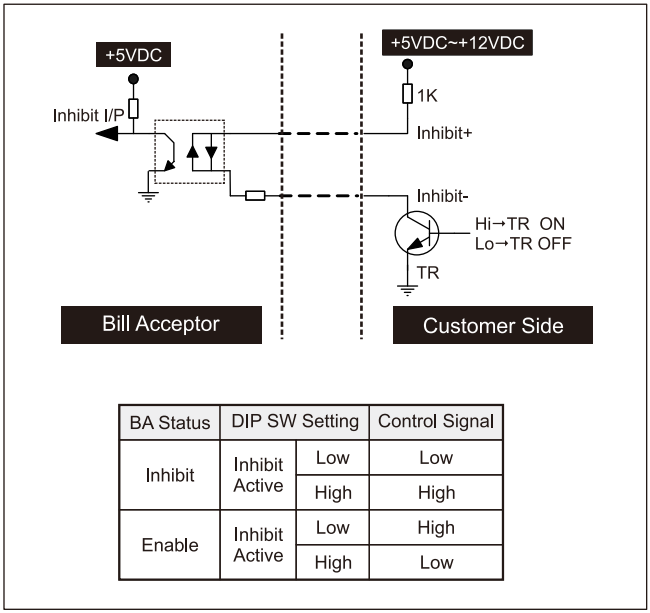

5RBG-AA203L1-xx
Plug-in Box
Parallel GPT
#WEL-RLD15
BLK-15*2(2.54mm/KEY)
PIN 3- WHITE.....+12V
PIN 4- RED.....INHIBIT+
PIN 6- PURPLE.....MDB_RXD
PIN 10&18- BLACK.....GND
PIN 14- BLUE.....MDB_TXD
PIN 16- BROWN.....24VAC-Neutral
PIN 23- BLUE.....24VAC_HOT
MOLEX 15P
0.248/6.3(F)BACK
MOLEX 15P
0.248/6.3(M)BACK
PIN 1- BROWN.....24VAC-Neutral
PIN 2- BLUE.....24VAC_HOT
PIN 9- BLUE.....24VAC_HOT
MOLEX 15P 0.248/6.3(M)
MOLEX 15P 0.248/6.3(F)
MOLEX 51004-7P
PIN 1- BLUE.....CH1
PIN 2- YELLOW.....CH2
PIN 3- WHITE.....CH3
PIN 4- ORANGE.....CH4
PIN 5- RED.....INHIBIT
PIN 7- GREEN.....GND
2464 24AWG 6C CABLE
GREEN
BLUE
YELLOW
WHITE
ORANGE
2464 24AWG 4C CABLE
BLACK
WHITE
BLUE
PURPLE

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

### Pulse Interface

*5-1-1 FIG. 01*

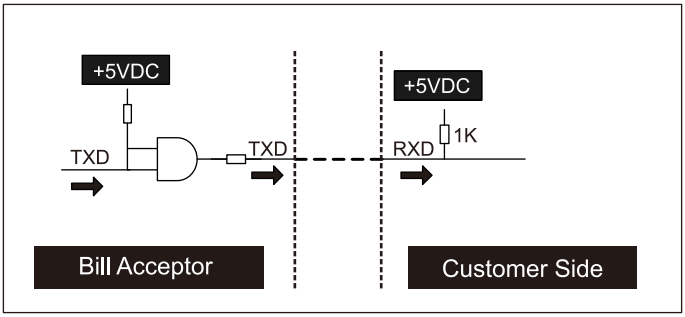


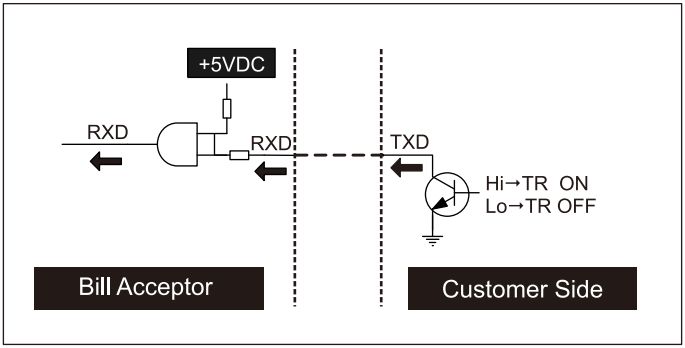




| BA Status | DIP SW Setting | | Control Signal |
|---|---|---|---|
| Inhibit | Inhibit Active | Low | Low |
| | | High | High |
| Enable | Inhibit Active | Low | High |
| | | High | Low |

ICT-Protocol Interface.

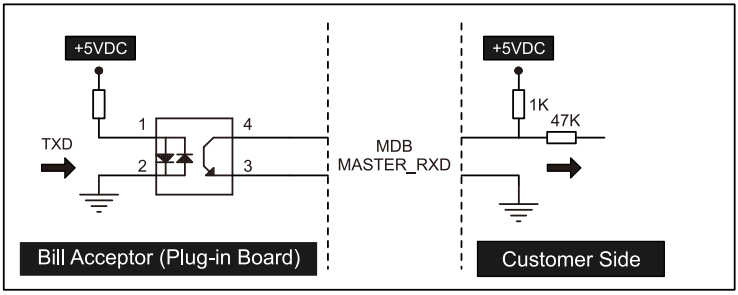
*5-1-1 FIG. 02*

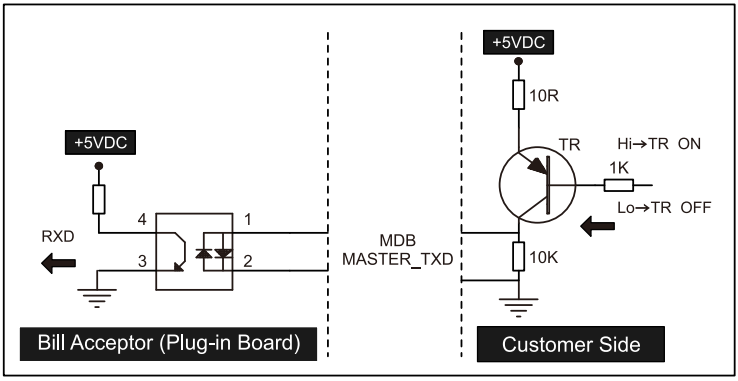


## MDB Interface

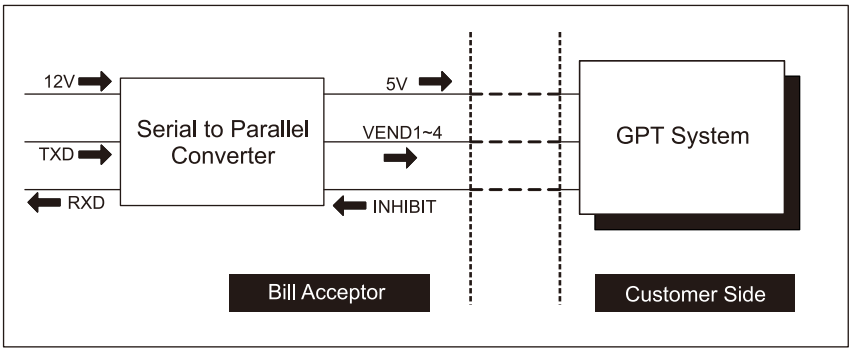
*5-1-1 FIG. 03*



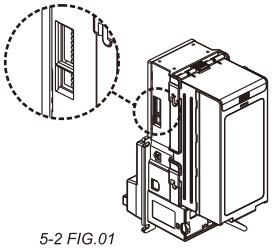
GPT Parallel Interface

*5-1-1 FIG. 04*

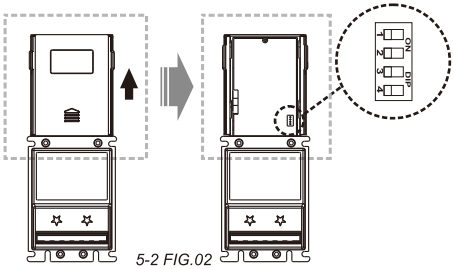


## 5-2. DIP Switch Setting

There are two serial DIP switches which are located on the side of BS7 (as FIG.01). According to different currencies which are used by users, DIP switch settings could be varied to fit users' need. Besides, there's also a serial DIP switches on CPU board inside of BS7 for interface settings.(as FIG.02)
Please refer to "BS7 DIP Switch Setting" Guide in the package for more detail.



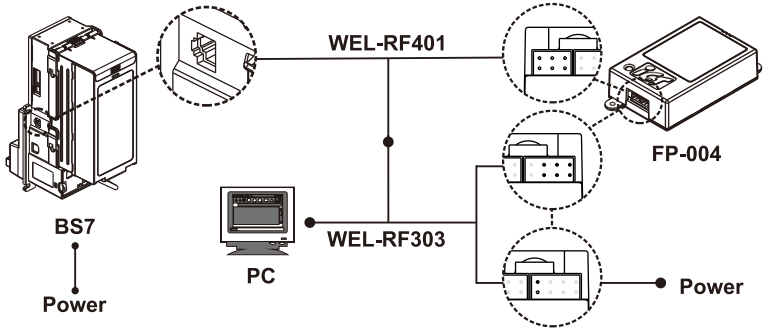
5-2 FIG.01




5-2 FIG.02

## 5-3. Software Download and Upgrade

To download and upgrade the software to BS7, the programmer (FP-004) is needed. Please contact ICT to purchase FP-004 and refer to FP-004 user guide for software download and upgrade information.



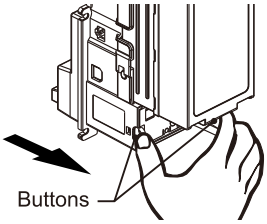

Power must be applied to Bill Acceptor ***after*** connecting.

# 6. Maintenance

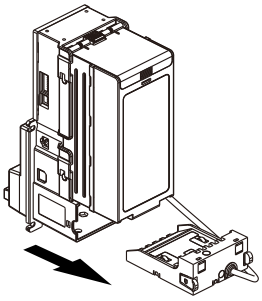
To make sure the bill acceptor always works smoothly, please clean the internal parts regularly.

To clean the internal parts:

1. Press the buttons on the sides of bill path unit and pull the unit out.

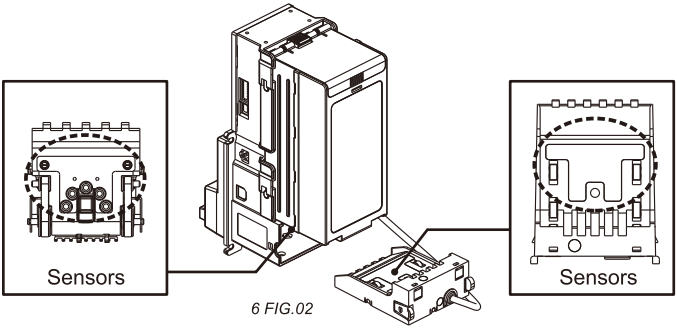



6 FIG.01



6 FIG.01-2

2. Use a soft, dry cloth or towel to clean the bill path and sensors.




6 FIG.02

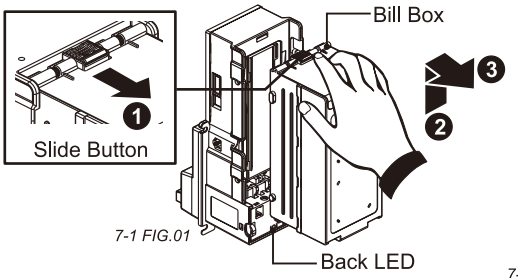

***Maintenance Notice***

***(Any improper maintenance will invalidate the warranty.)***

| | |
|---|---|
| **Recommended** | **Mild, non-abrasive, soap water.** |
| **DO NOT USE** | **Organic solvent , Alcohol, Volatile liquid.** |

# 7. Troubleshooting

## 7-1. Back LED Errors




7-1 FIG.01

7-1 TABLE 01

| LED<br>**GREEN** | Status | Correct Actions |
|---|---|---|
| **1** | White Card Calibration. | Please calibrate with ICT white calibration card. |

7-1 TABLE 01-1

| LED Flashes<br>**GREEN** | Status | Corrective Actions |
|---|---|---|
| **1** | Bill jammed. | Remove the bill box by sliding the top button and the bill path*(as 7-1 FIG.01)*, and then remove the jammed bill. |
| **2** | Disable. | Inspect the right DIP switch setting. |
| **3** | Recognition sensor module error. | Inspect the foreign objects on sensor or bill path and clean. |
| **3+2** | Hook sensor error. | Inspect the foreign objects on security hook and clean. |
| **4** | Anti-string sensor error or a stringing attempt has detected. | Inspect the foreign objects on sensor or bill path and clean. |
| **5** | Bill box has been removed. | Replace the bill box. |
| **6** | Stacker error or stacker full. | Empty the bill box. |
| **7** | Motor error. | Inspect the foreign objects on bill path and clean. |

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

ICT Taiwan

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V. 5.0 Part Number : H6505D-R