



Bill Acceptor

NBA

Installation Guide

International Currency Technologies Corp.

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1. Introduction

1-1. Overview

ICT superior security system-NBA bill acceptor, is designed for customers who require safer automatic bill handling transaction. In addition to high security, NBA bill acceptor also includes high acceptance rates, lockable cashbox, bar-code reading function, and quick software update, etc. It would certainly provide you with more than you expect.

1-2. Features

- Four-way bill insertion acceptance.
- High security optical bill detection function.
- Double locks cash box or slide button cash box.
- Bar-code reading function for coupon verification.
- Smart bill box (optional).
- Auto-bill centralizing function.

2. Specifications

General

Acceptance Rate 96% or greater
Note: The acceptance rate excludes notes that are dirty, wet, broken or wrinkled.

Bill Insertion Four way acceptable

Transaction Speed Approx. 5 seconds to stack

Interface Pulse, RS232 A0, ccTalk, RS232 A1
 ICT Protocol

Electrical**Power Consumption**

Standby: 0.3 A, 3.6W

Operation: 1.25A, 15W

Maximum: 3A, 36W

Power Source

12V DC~24V DC (11.4~25.2V DC)

Operation Environment

Operation Temperature: 0°C~50°C

Storage Temperature: -30°C~70°C

Humidity: 30%~95%RH(no condensation)

Mechanical**Bill Capacity**

Approx. 500 bills

Weight

Approx. 4kg (including bill box)

Bill Accepted Width

62~83mm

Outline Dimension

Refer to page. 4

Installation

Indoor

3. Packing List**Main**

Bill Acceptor

AccessoryHarnesses: Refer to **5-1**

ccTalk male to male connector

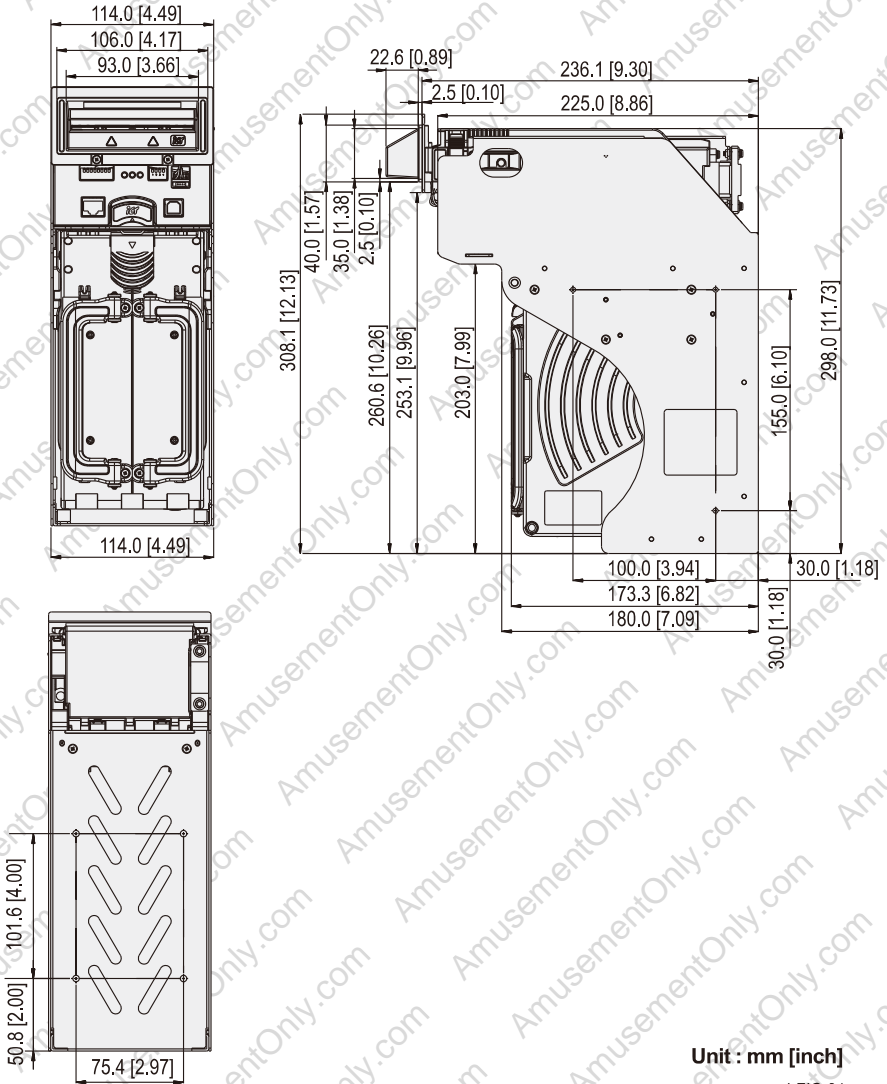
NBA Installation Guide

NBA DIP Switch Setting Guide

A Pair of Keys for Bill Box

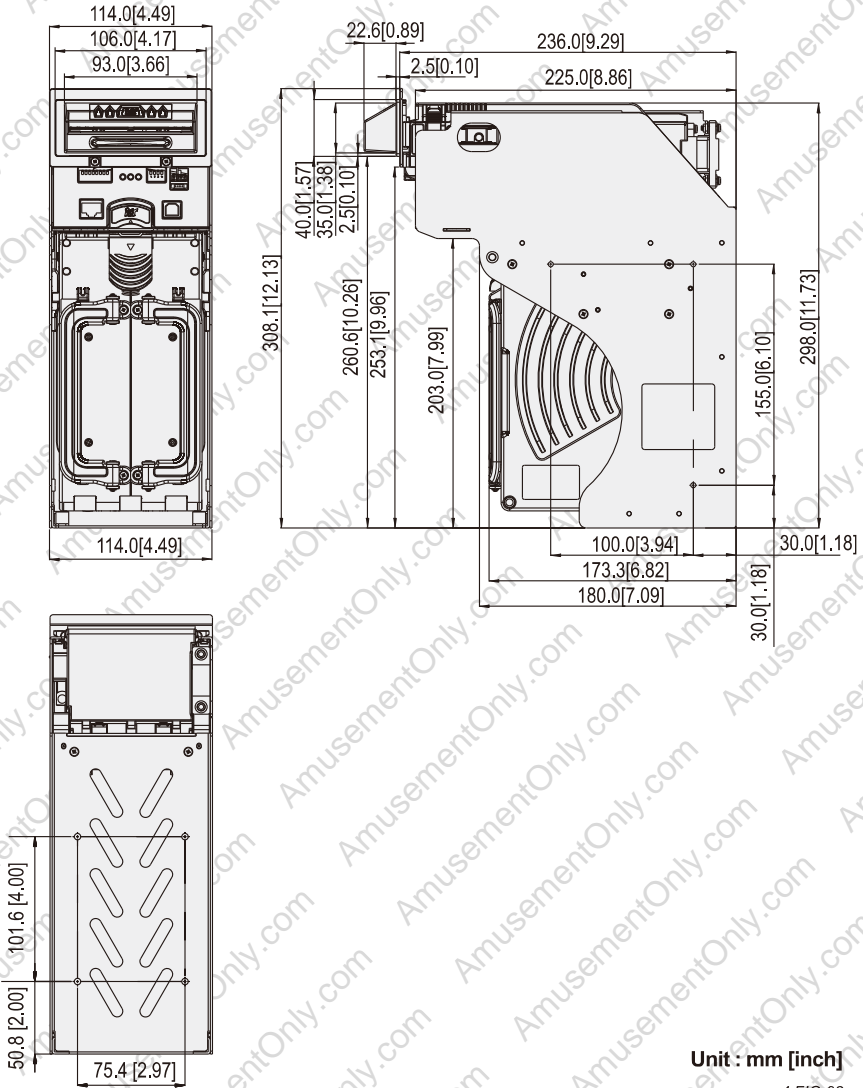
4. Dimension

U Type Bezel (Part Number: 3RBS-FAC0600X)



4 FIG.01

I Type Bezel (Part Number: 3ZBS-FAC13000)



Unit : mm [inch]

4 FIG.02

5. Installation

5-1. Harness Application

5-1 TABLE 01

Interface	Used Voltage	Usage	Harness	Page
Pulse	12V DC	Power & *Data Comm.	** 3-BA-RNEWJ830-O	7
RS232 A0	12V DC / 24V DC	*Data Comm.		
ICT Protocol	-	*Data Comm.		
RS232 A1	-	*Data Comm.		
ccTalk	12V DC / 24V DC	Power & *Data Comm.		
RS232 A0	12V DC / 24V DC	Power & *Data Comm.	WEL-RNJ13(Option)	8
RS232 A0	12V DC / 24V DC	Power & *Data Comm.	** *** WEL-RNJ28-T (Option)	9
V2.2				
RS232 A1	12V DC / 24V DC	Power & *Data Comm.	3-BA-RNJ24-01 (Option)	10
RS232 A0 (5V-TTL LEVEL)	12V DC / 24V DC	Power & *Data Comm.	3-BA-RNBA-T-01 (Option)	11
RS232 A0	12V DC / 24V DC	Power & *Data Comm.	2-BA-RNJ29-01	12

* Data Comm. : Data Communication.

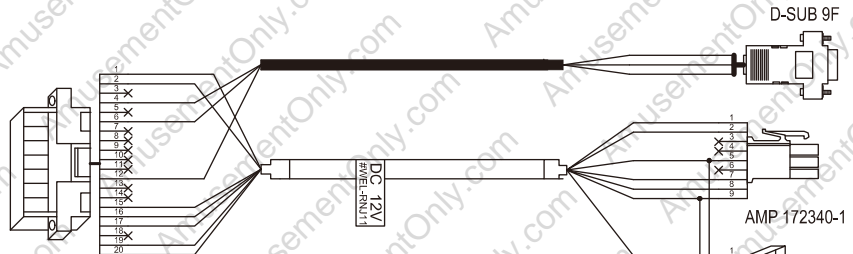
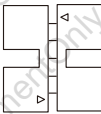
** Please note that WEL-RNJ28-T is used to be connected to 3-BA-RNEWJ830-O to support the interface of RS232 A0 or V2.2, in case of your machine has no DB9 connector available for connecting with 3-BA-RNEWJ830-O. (Refer to page 13)

*** Please note these two connectors PRN-RG014 or PRN-RG020 is used to be connected with wire-pin of WEL-RNJ28-T. (Refer to page 13)

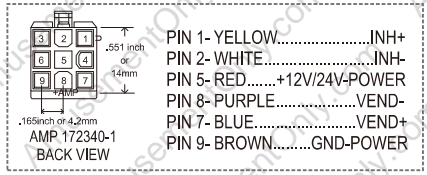
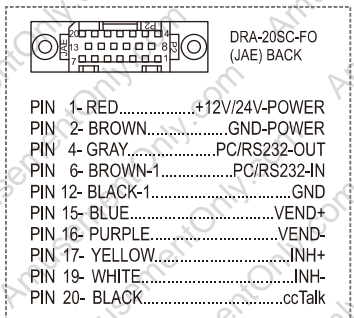
Interface	Used Voltage	Usage
Pulse	12V DC	Power & *Data Comm.
RS232 A0	12V DC/24V DC	*Data Comm.
ICT Protocol	-	*Data Comm.
RS232 A1	-	*Data Comm.
ccTalk	12V DC / 24V DC	Power & *Data Comm.

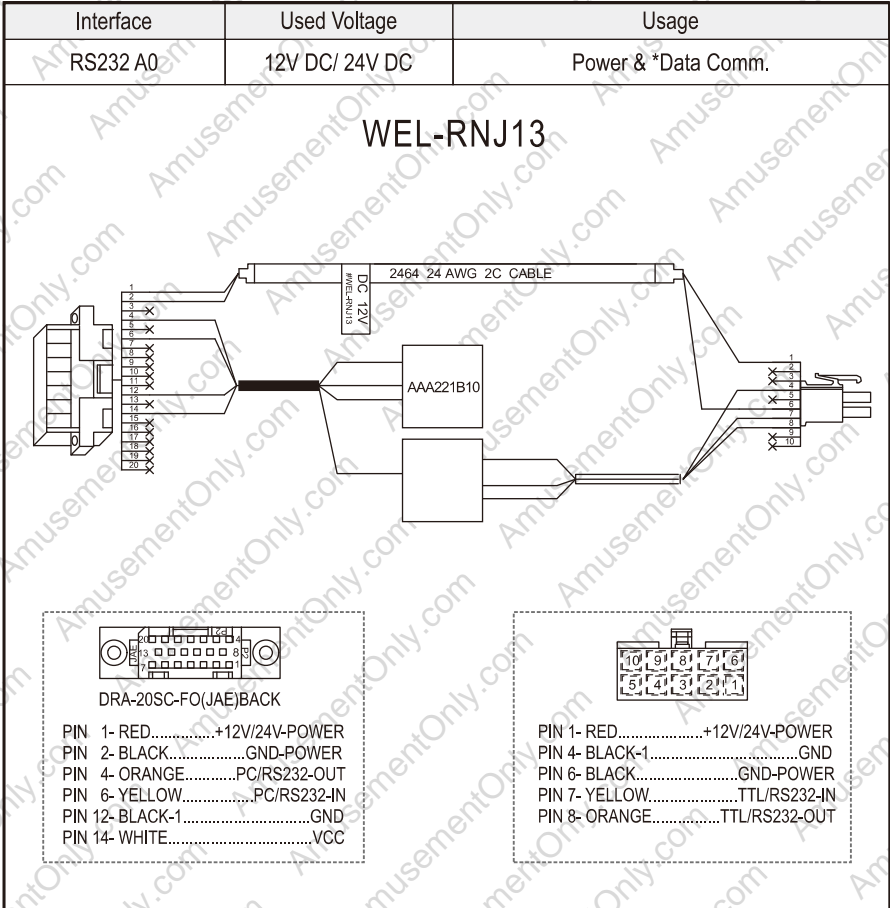
3-BA-RNEWJ830-O

CNT-R7025



DRA-20SC-FO (JAE)

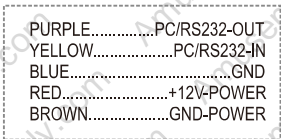
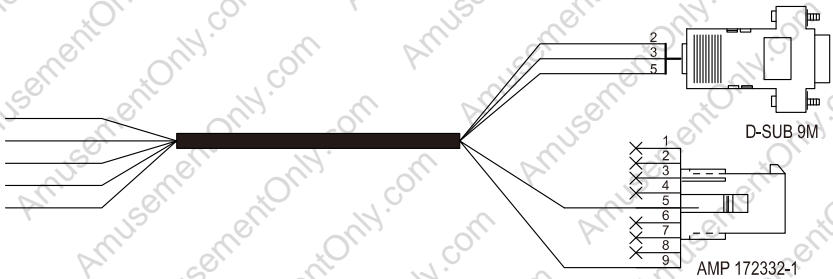
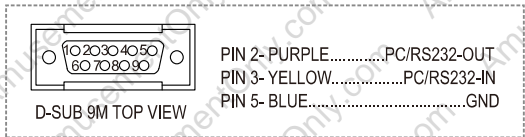


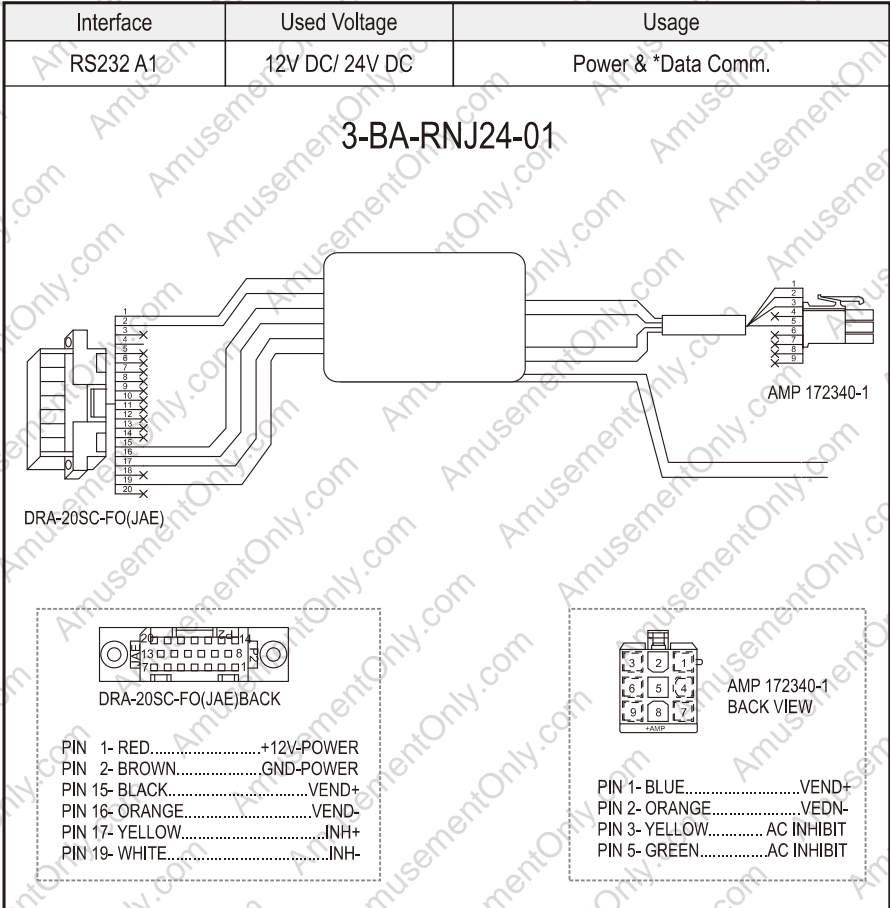


5-1 FIG.03

Interface	Used Voltage	Usage
RS232 A0	12V DC/ 24V DC	Power & *Data Comm.
V2.2		

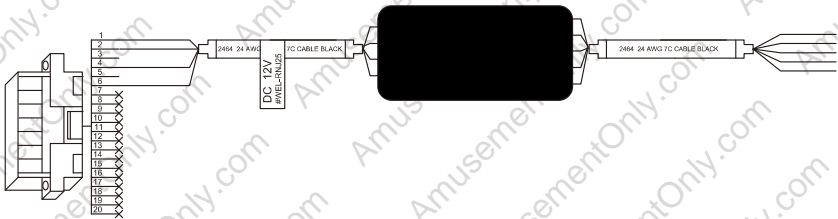
WEL-RNJ28-T



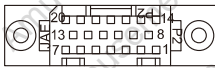


Interface	Used Voltage	Usage
RS232 A0 (5V-TTL LEVEL)	12V DC	Power & *Data Comm.

3-BA-RNBA-T-01



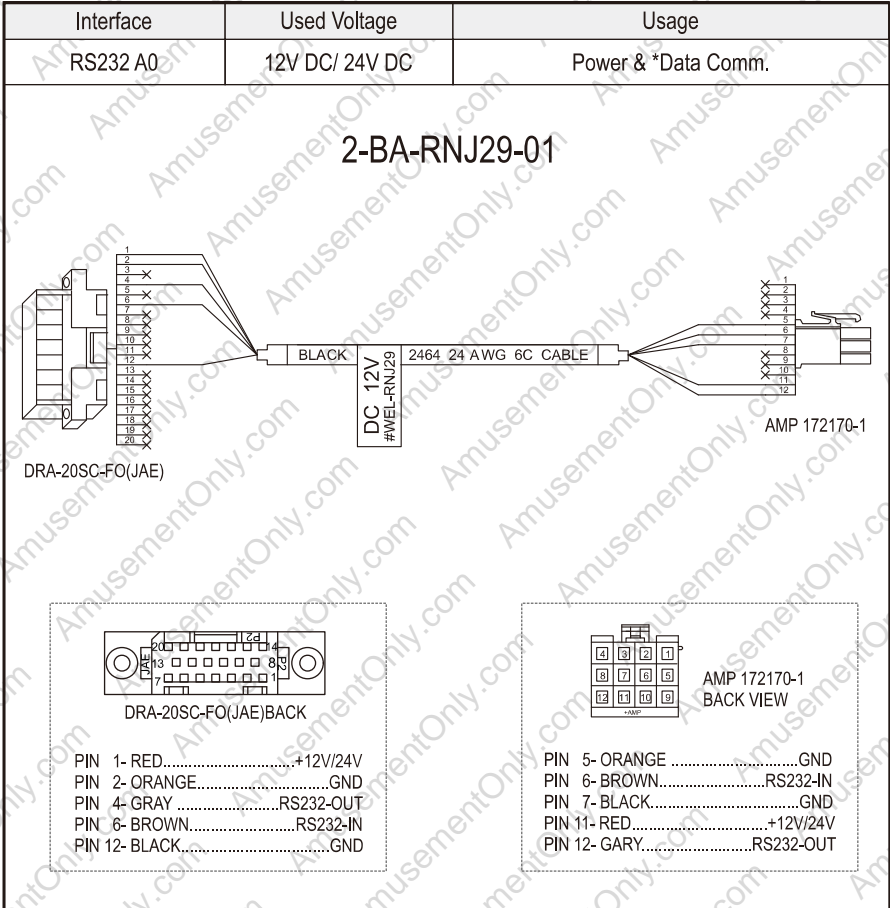
DRA-20SC-FO(JAE)



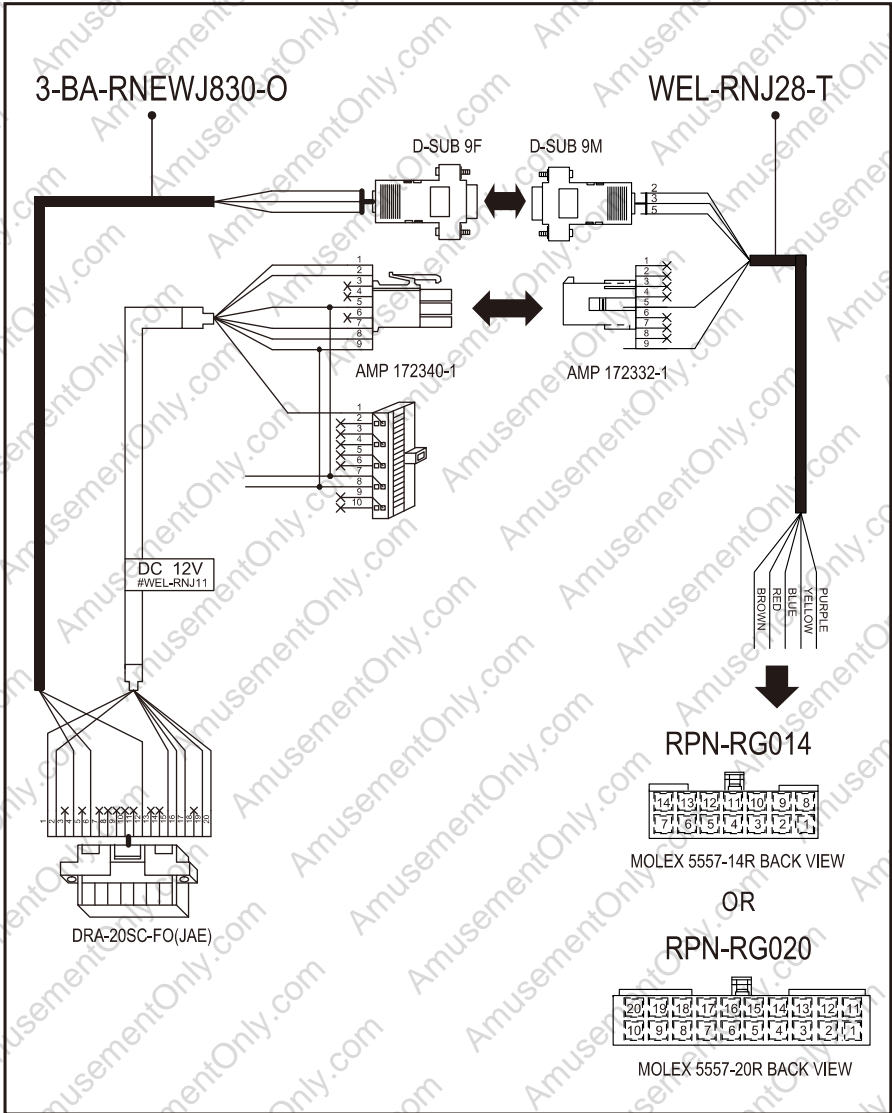
DRA-20SC-FO(JAE)BACK

- PIN 1- RED.....+12V-POWER
- PIN 2- BLACK.....GND-POWER
- PIN 4- PURPLE.....PC/RS232-OUT
- PIN 6- YELLOW.....PC/RS232-IN

- RED.....+12V-POWER
- BLACK.....GND-POWER
- PURPLE.....GND
- BLUE.....TTL/RS232-OUT
- YELLOW.....TTL/RS232-IN



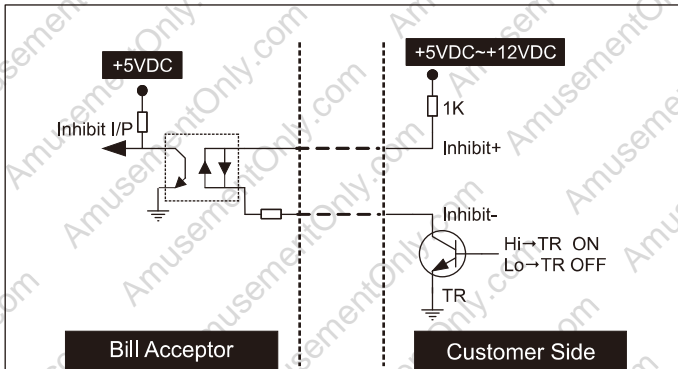
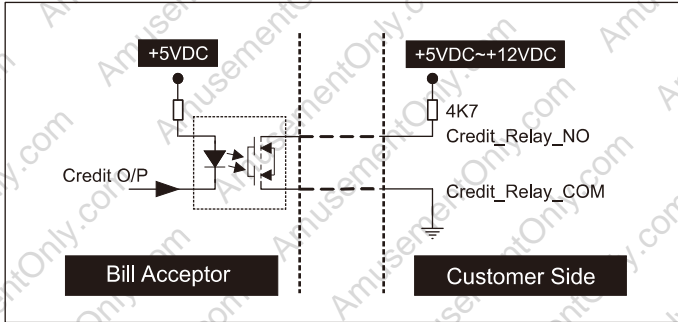
5-1 FIG.07



5-1-1: I/O Circuit

Pulse Interface.

5-1-1 FIG.01

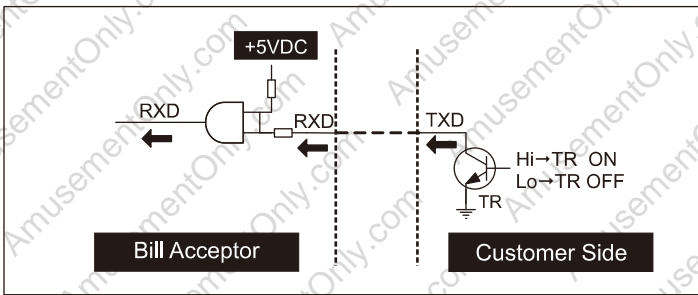
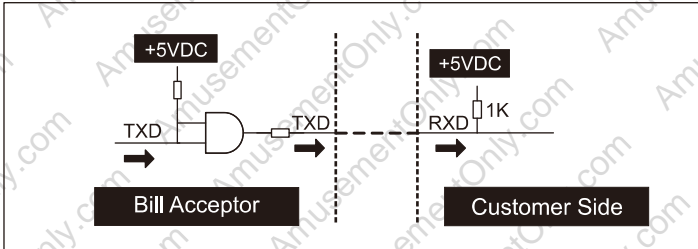


BA Status	*DIP SW Setting	Control Signal
Inhibit	Inhibit Active	Low
		High
Enable	Inhibit Active	Low
		High

*Note: Please refer to DIP Switch Setting Guide for detail.

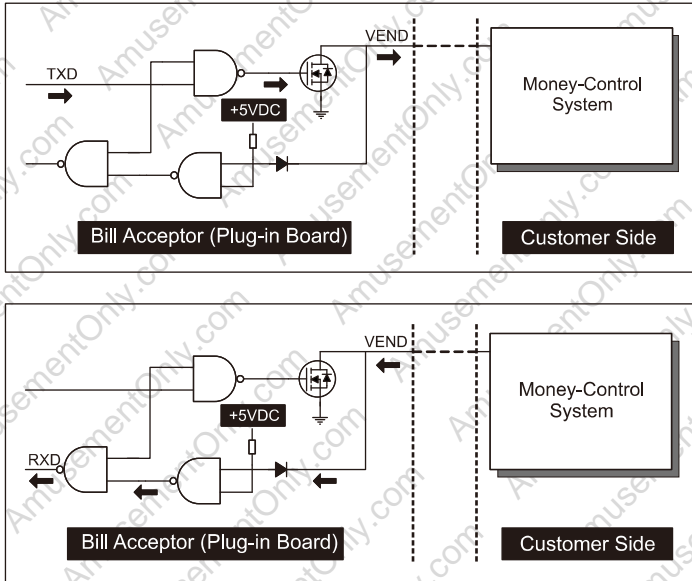
ICT-Protocol, RS232 A0 & RS232 A1 Interface.

5-1-1 FIG.02



ccTalk Interface.

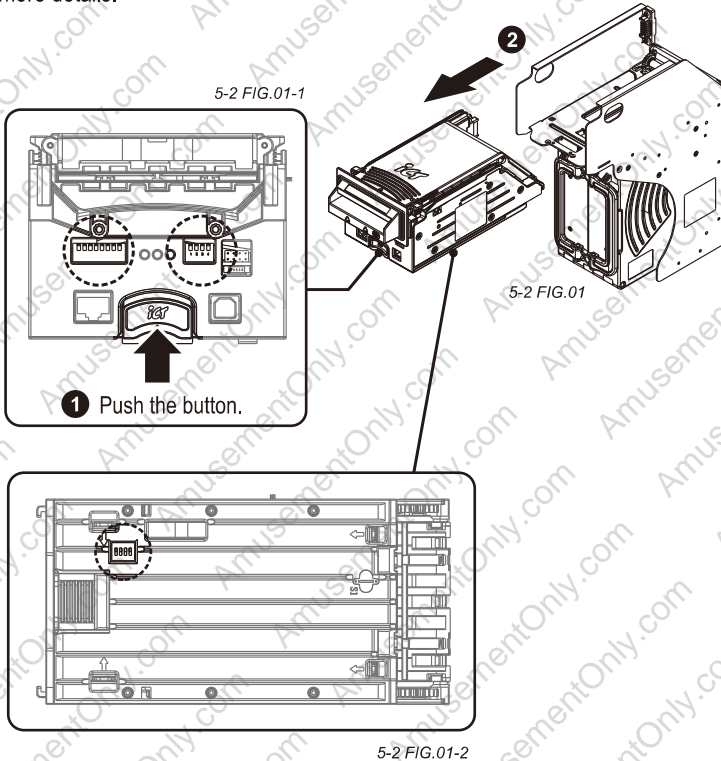
5-1-1 FIG.03



5-2. DIP Switch Setting

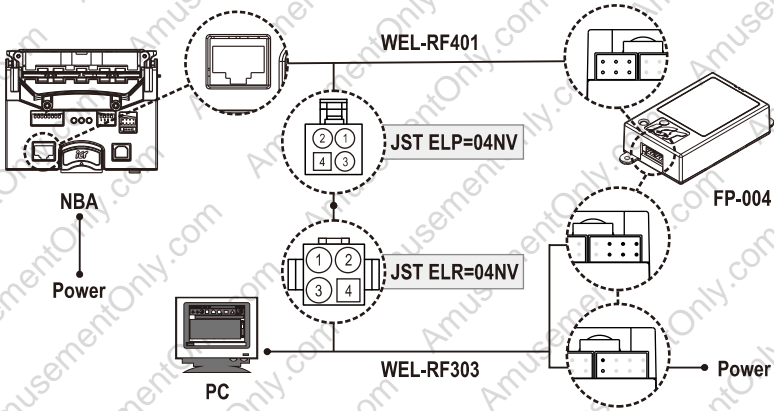
There are two serial DIP switches which are located in the front of NBA (as 5-2 FIG.01-1). According to different currencies which are used by users, DIP switch settings could be varied to fit users' needs. There's also a serial DIP switch on the base of unit for interface settings (as 5-2 FIG.01-2).

Please refer to "NBA DIP Switch Setting Guide" in the package for more details.



5-3. Software Download and Upgrade

To download and upgrade the software to NBA, 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.



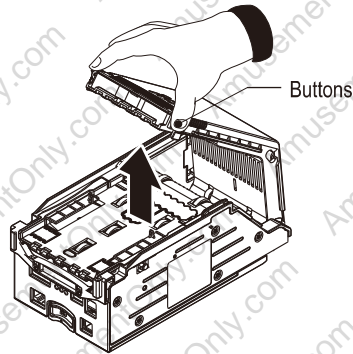
Power must be applied to Bill Acceptor after connecting.

6. Maintenance

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

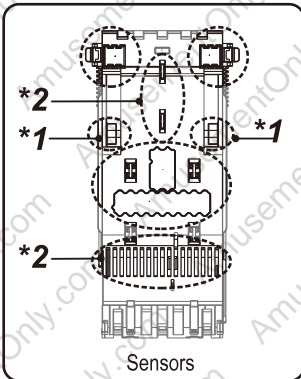
To clean the internal parts:

1. Press the buttons on the side of bill path and lift the unit.

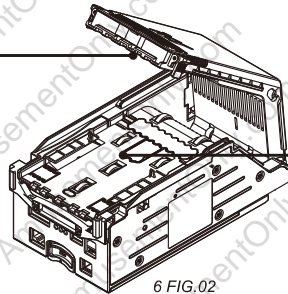


6 FIG.01

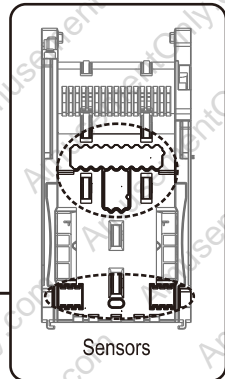
2. Use a soft, dry cloth, or towel to clean the bill path and sensors.



6 FIG.02-1



6 FIG.02



6 FIG.02-2



Maintenance Notice
(Any improper maintenance will invalidate warranty.)

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

7 TABLE 01

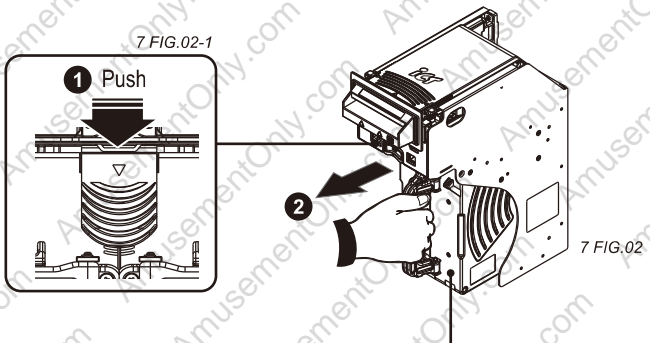
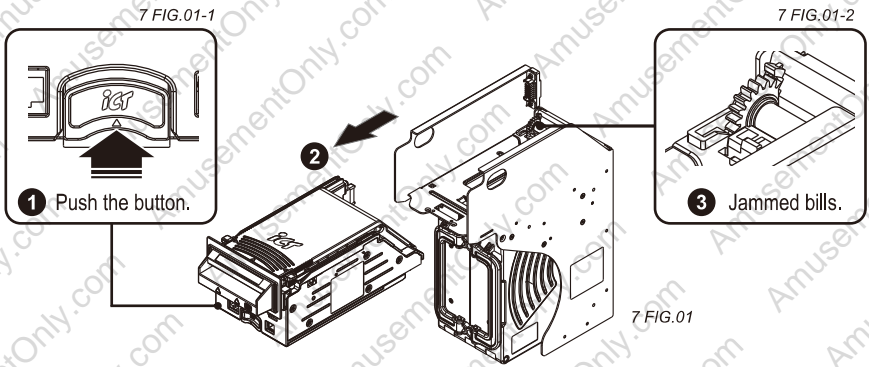
LED Flashes		Status	Corrective Actions
Red			
1		Bill jammed.	Remove the jammed bill. (Refer to page 21, as 7 FIG.01)
2		Disable.	Inspect for right DIP switch setting, harness connections, and communication.
3		Recognition module sensor error or bar-code optics module error.	1. Inspect for foreign objects on sensors or bill path and clean. 2. Do the white card calibration with NBA white card. 3. Make sure upper base cover is correctly secured.
4		A stringing attempt has detected.	Inspect for foreign objects on sensors or bill path and clean.
5		Bill box has been removed.	Return bill box back to position.
6		Stacker error or bill box full.	Empty the bill box. (Refer to page 21, as 7 FIG.02)
7		Bill transaction motor error.	Inspect for foreign objects on bill path and clean. Send the product to service point to maintain.

7 TABLE 02

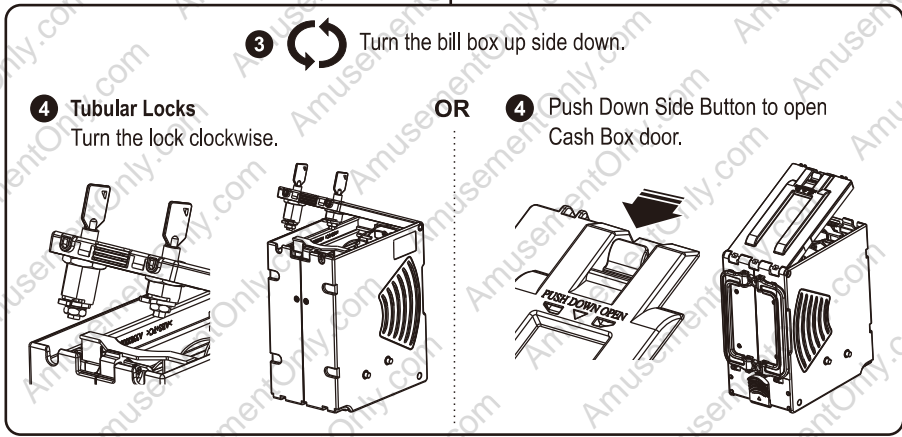
LED Flashes			Status	Corrective Actions
Red	Green	Blue		
7	2		Note centralized module error.	Inspect for foreign objects on sensors *1 (Refer to page 19, as 6 FIG.02-1) or bill path and they are clean.
3	1		Fish sensor error.	Inspect for foreign objects on bill path and they are clean.
3	2		I/O sensor error.	
7	1		Solenoid wheel error or anti-fishing hook error.	Inspect for foreign objects on wheels *2 (Refer to page 19, as 6 FIG.02-1) and clean. If solenoid is breakdown, please contact ICT for support.
8			RFID error.	1. Inspect for right DIP switch setting. 2. Make sure the bill box is in position.
2	1		MCU and Barcode communication error.	Re-download bar-code module firmware.
3		1	Re-Calibarte Barcode Reader	Do the calibration with an empty coupon ticket.



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

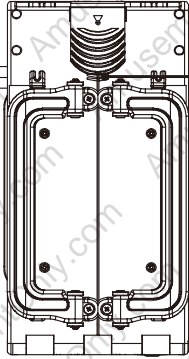


7 FIG.02-2

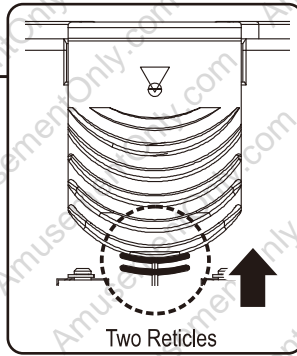




When put bill box back to the main unit, it has to ensure the **two reticles** are shown under slide, which means bill box is in the fixed position.



7 FIG.03

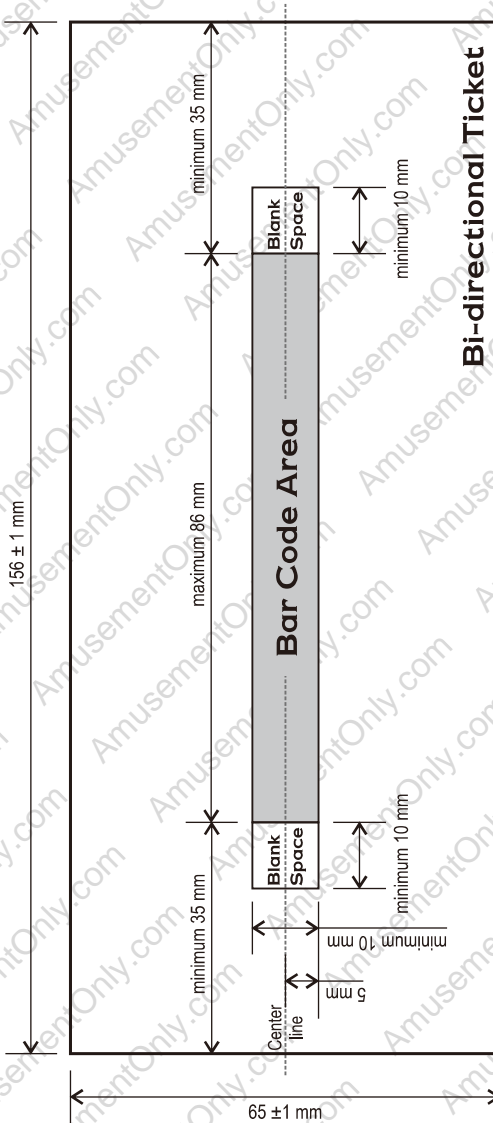


Two Reticles

7 FIG.03-1

8. Standard of Coupon Bar Code

8-1. Bar Code Ticket Diagram (Format: Interleaved 2 of 5)



8-1 FIG.01

Bi-directional Ticket



International Currency Technologies Corporation

No.28, Ln. 15, Sec. 6, Minquan E. Rd., Neihu Dist., Taipei City 114, Taiwan

sales@ictgroup.com.tw (For Sales)

fae@ictgroup.com.tw (For Customer Service)

Website: www.ictgroup.com.tw

