www.ictgroup.com.tw

Bill Acceptor

XBA

Installation Guide

International Currency Technologies Corp.

Use of Materials Limitations

Contents

1. Introduction

1-1. Overview

The XBA Bill Acceptor equips with innovative wide-angle banknote insertion technology to offer superior acceptance rate of 98% or higher. With the outstanding design, the XBAhas the ability to provide 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 firmware upgrades via USB flash drive conveniently.

1-2. Features

- Auto-calibration, multi-color optical sensor.
- Allow bill insertion from very wide angle.
- Immune to strong ambient light.
- Advanced optical/mechanical anti-fishing structure.
- High MTBF.
- Support firmware upgrade through USB Flash Disk.
- Support Firmware upgrade through MDB-FTL.
- Works under severe weather condition.
- Support connect with Coin Changer.

2. Specifications

General

Acceptance Rate	98% or greater

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

Bill Insertion	Four way acceptable
Transaction Speed	Approx. 2.5 s to stack
Interface	Pulse MDB ccNet ccTalk JPSTD RS232 A0 ICT Protocol

Electrical

Power Source	12V DC ±10% 24V DC ±10% 24V/34V DC ±10% 24V AC ±10%
Power Consumption	Standby : 0.15A, 1.8W Operation: 1.0A, 12W Maximum: 2A, 24W
Operation Environment	Operating Temperature: -20°C~60°C Storage Temperature: -30°C~70°C Humidity: 30%~95%RH(no condensation)

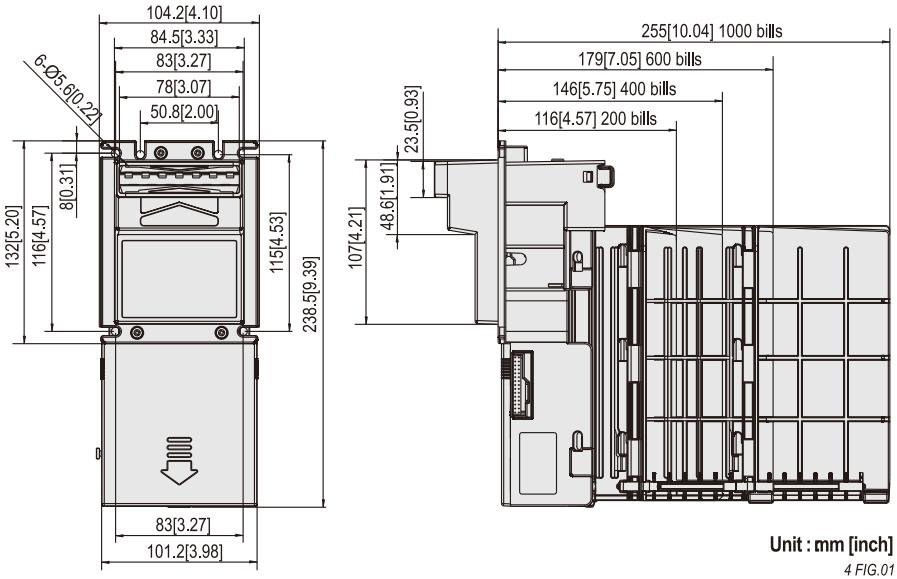
Mechanical

Outline Dimension	Refer to page.5
Bill Capacity	Approx. 200 bills 400 bills 600 bills 1000 bills
Weight	Approx. 1.5kg
Bill Accepted Width	62~77mm
Installation	Indoor & Outdoor

3. Packing List

Main	Bill Acceptor
Accessory	Harnesses: Refer to 5-1 XBA Installation Guide XBA Switches Setting Guide

4. Dimension

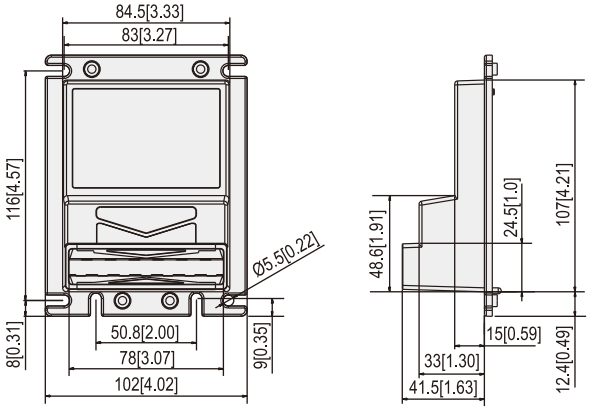


Unit : mm [inch]

4 FIG.01

Bezel Style:

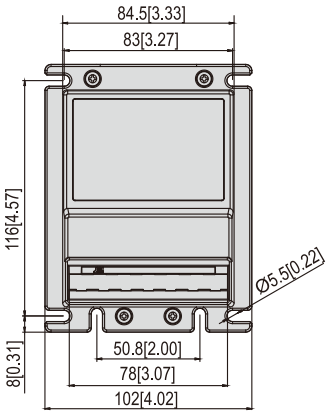
Standard plastic Bezel Part No.3ZMB-FAC40000

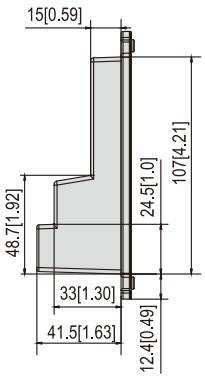


Unit : mm [inch]

4 FIG.02

Two Side Bezel (Metal) Part No. 3ZMB-FAC45000

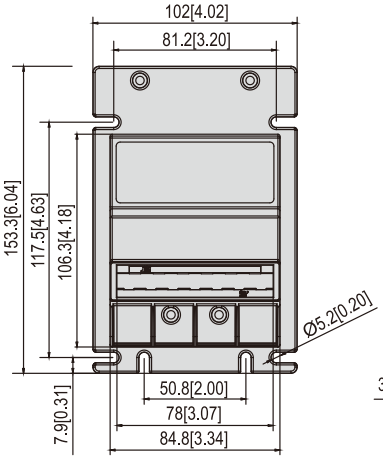


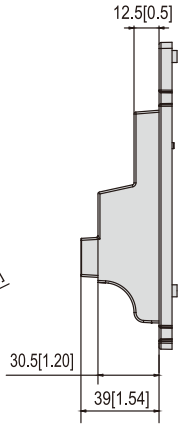


Unit : mm [inch]

4 FIG.03

TOB Bezel Part No. 3ZMB-FAC41000





Unit : mm [inch]

4 FIG.04

5. Installation

5-1. Harness Application

5-1 TABLE 01

Interface	CPU Board	Used Voltage	Usage	Harness	Page
MDB	399Axx	12V/24V DC	Power & *Data comm.	WEL-RS7P02	8
		24V/34V DC	Power & *Data comm.	WEL-RM006	9
		24V AC			
Pulse	399Axx or 399Mxx	12V DC	Power & *Data comm.	WEL-RV701	10
			Extension Wire	CU-R961-1	10
	399Axx	24V AC	Power & *Data Comm.	WEL-RV703	11
			Extension Wire	WEL-RV702	11
ICT Protocol	399Axx or 399Mxx	12V DC	Power & *Data Comm.	WEL-RXBA18 or 2-BA-RXBA18	12
ccNet					
RS232 A0			Extension Wire	CU-R961-1	10
JPSTD	399Mxx	24V DC	Power & *Data comm.	WEL-RXBA20	13
ccTalk		** 12V/24V DC	Power & *Data comm.	WEL-RXBA21	13
USB Download	-	-	USB Extension Wire	WEL-RXBA31-2 (Optional)	14

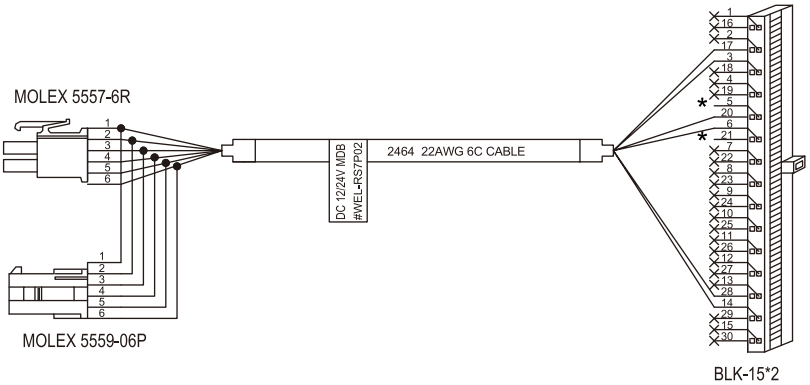
* Date Comm.: Data Communication.

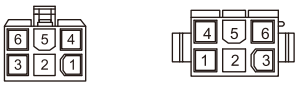
** ccTalk supports 12V/24V DC from CPU board number "399M30" (399M20 or before, support 12V DC only).

5-1 FIG.01

Interface	Used Voltage	Usage
MDB	12/24V DC	Power & *Data Comm.

WEL-RS7P02



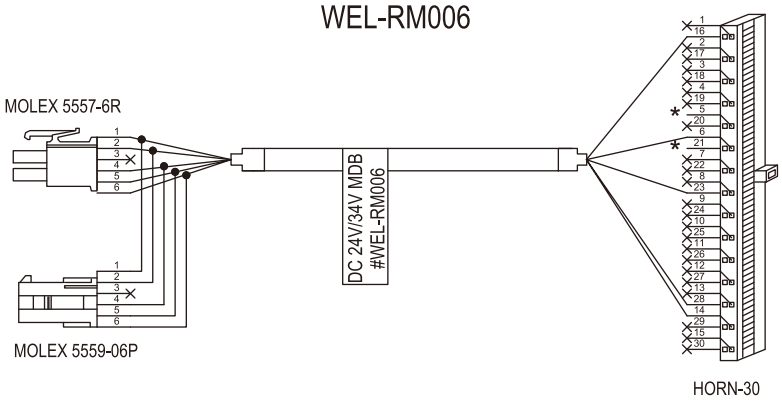


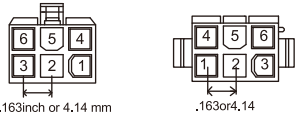
PIN 1- BLUE.....DC+12/24VDC INPUT
PIN 2- YELLOW.....Ground
PIN 3- PURPLE.....MDB_WAKE_UP_EN
PIN 4- ORANGE.....MDB_MASTER_RXD
PIN 5- RED.....MDB_MASTER_TXD
PIN 6- GREEN.....MDB Ground

PIN 3- BLUE.....DC+12/24V INPUT
PIN 6- ORANGE.....MDB_MASTER_RXD
PIN 14- RED.....MDB_MASTER_TXD
PIN 17- PURPLE.....MDB_WAKE_UP_EN
PIN 20- YELLOW.....Ground
PIN 28- GREEN.....MDB Ground

5-1 FIG.02

Interface	Used Voltage	Usage
MDB	24V/34V DC	Power & *Data Comm.
	24V AC	





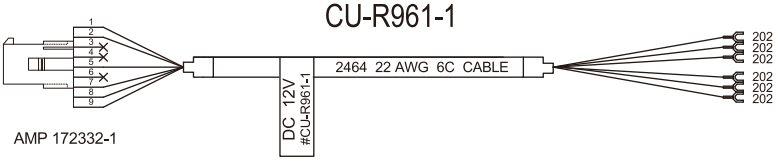
PIN 1- BLUE.....24VAC/24VDC/34VDC
PIN 2- YELLOW.....POWER RETURN
PIN 3- N/C
PIN 4- ORANGE.....MDB_MASTER_RXD
PIN 5- RED.....MDB_MASTER_TXD
PIN 6- GREEN.....MDB GROUND

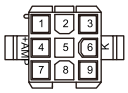
PIN 6- ORANGE.....MDB_MASTER_RXD
PIN 14- RED.....MDB_MASTER_TXD
PIN 16- YELLOW.....POWER RETURN
PIN 23- BLUE.....24VAC/24VDC/34VDC
PIN 28- GREEN.....MDB GROUND

5-1 FIG.03

Interface	Used Voltage	Usage
Pulse	12V DC	Extension Wire for WEL-RV701
ICT Protocol	12V DC	Extension Wire for WEL-RXBA18
ccNet		
RS232 A0		

CU-R961-1





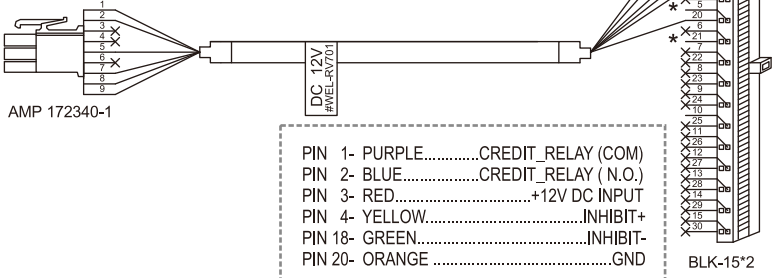
PIN 1- YELLOW.....INHIBIT+
PIN 2- GREEN.....INHIBIT-
PIN 5- RED.....+12VDC INPUT
PIN 7- BLUE.....CREOIT-RELAY(N.O.)
PIN 8- PURPLE.....CREDIT-RELAY(COM)
PIN 9- ORANGE.....GND

5-1 FIG.04

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

WEL-RV701

PIN 1- YELLOW.....INHIBIT+
PIN 2- GREEN.....INHIBIT-
PIN 5- RED.....+12V DC INPUT
PIN 7- BLUE.....CREDIT_RELAY (N.O.)
PIN 8- PURPLE.....CREDIT_RELAY (COM)
PIN 9- ORANGE.....GND

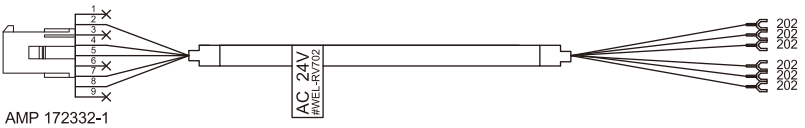


PIN 1- PURPLE.....CREDIT_RELAY (COM)
PIN 2- BLUE.....CREDIT_RELAY (N.O.)
PIN 3- RED.....+12V DC INPUT
PIN 4- YELLOW.....INHIBIT+
PIN 18- GREEN.....INHIBIT-
PIN 20- ORANGE .....GND

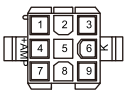
5-1 FIG.05

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

WEL-RV702



AMP 172332-1



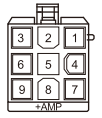
AMP 172332-1
BACK VIEW

PIN 2- YELLOW.....INHIBIT+
PIN 4- BLUE.....CREDIT_RELAY (N.O.)
PIN 5- PURPLE.....CREDIT_RELAY (COM)
PIN 5- GREEN.....INHIBIT-
PIN 7- ORANGE.....+24V AC (RET)
PIN 8- RED.....+24V AC

5-1 FIG.06

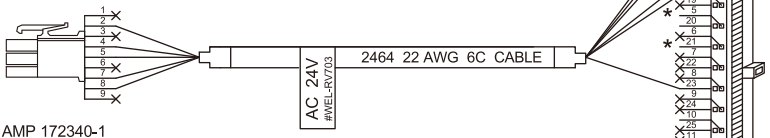
Interface	Used Voltage	Usage
Pulse	24V AC	Power & *Data Comm.

WEL-RV703



AMP 172340-1
BACK VIEW

PIN 2- YELLOW.....INHIBIT+
PIN 4- BLUE.....CREDIT_RELAY (N.O.)
PIN 5- PURPLE.....CREDIT_RELAY (COM)
PIN 5- GREEN.....INHIBIT-
PIN 7- ORANGE.....+24V AC (RET)
PIN 8- RED.....+24V AC



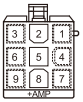
AMP 172340-1

PIN 1- PURPLE.....CREDIT_RELAY (COM)
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

BLK-15*2

5-1 FIG.07

Interface	Used Voltage	Usage
ICT Protocol	12V DC	Power & *Data Comm.
ccNet		
RS232 A0		

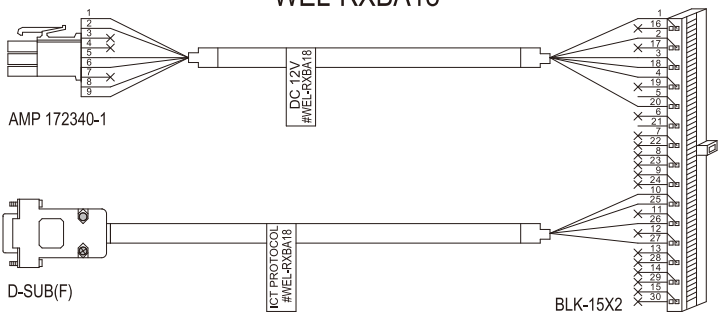


AMP 172340-1
BACK VIEW

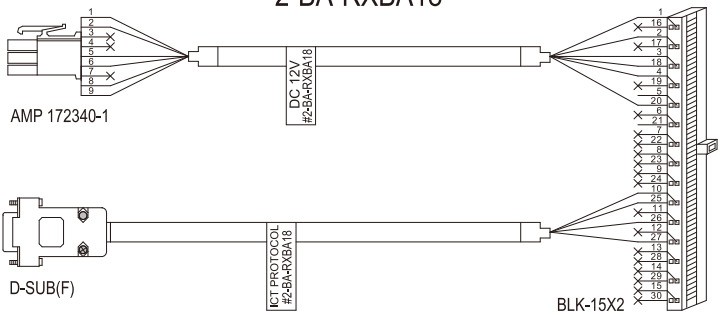
PIN 1- YELLOW .....INHIBIT+
PIN 2- GREEN.....INHIBIT-
PIN 5- RED.....+12V DC INPUT
PIN 7- BLUE.....CREDIT RELAY(N.O.)
PIN 8- PURPLE.....CREDIT RELAY(COM)
PIN 9- ORANGE.....GND

PIN 1- PURPLE .....CREDIT RELAY(COM)
PIN 2- BLUE.....CREDIT RELAY(N.O.)
PIN 3- RED.....+12V DC INPUT
PIN 4- YELLOW.....INHIBIT+
PIN 18- GREEN.....INHIBIT-
PIN 20- ORANGE.....GND

WEL-RXBA18



2-BA-RXBA18



D-SUB 9F TOP VIEW

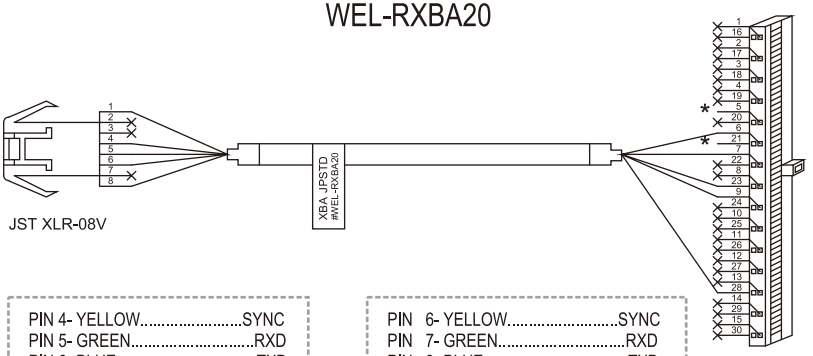
PIN 2- RXD
PIN 3- TXD
PIN 5- GND

PIN 10- YELLOW.....GND
PIN 25- RED.....VCC
PIN 26- WHITE.....TX11
PIN 27- BLACK.....RX11

5-1 FIG.08

Interface	Used Voltage	Usage
JPSTD	24V DC	Power & *Data Comm.

WEL-RXBA20



PIN 4- YELLOW.....SYNC
PIN 5- GREEN.....RXD
PIN 6- BLUE.....TXD

PIN 1- RED.....24VDC
PIN 8- ORANGE.....GROUND

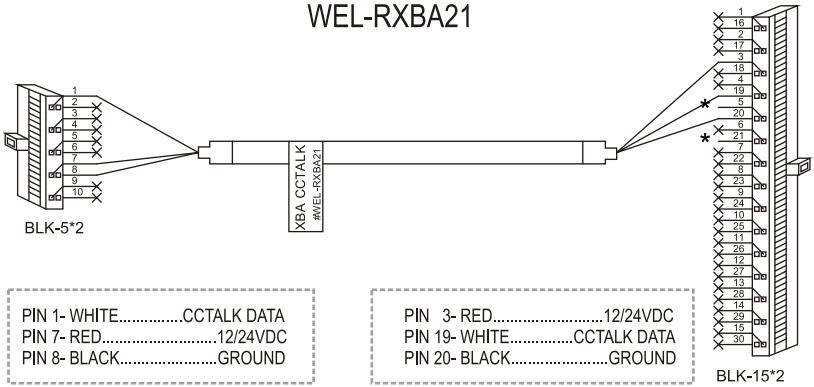
PIN 6- YELLOW.....SYNC
PIN 7- GREEN.....RXD
PIN 9- BLUE.....TXD

PIN 23- RED.....24VDC
PIN 28- ORANGE.....GROUND

5-1 FIG.09

Interface	Used Voltage	Usage
ccTalk	12/24V DC	Power & *Data Comm.

WEL-RXBA21



PIN 1- WHITE.....CCTALK DATA
PIN 7- RED.....12/24VDC
PIN 8- BLACK.....GROUND

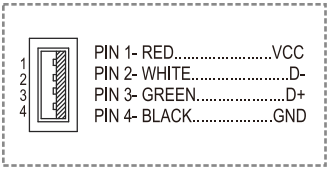
PIN 3- RED.....12/24VDC
PIN 19- WHITE.....CCTALK DATA
PIN 20- BLACK.....GROUND

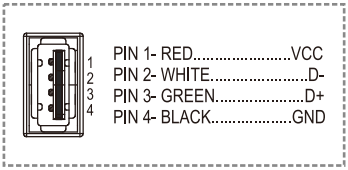
Note: XBA ccTalk supports 12/24V DC from CPU board number "399M30" (399M20 or before, support 12V DC only).

5-1 FIG.10

Interface	Used Voltage	Usage
USB Download	-	USB Extension Wire

WEL-RXBA31-2
(Optional)

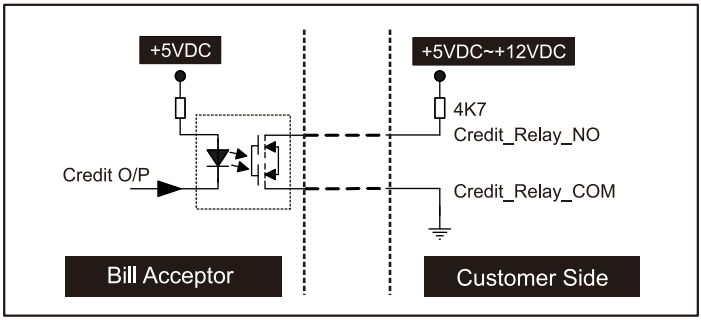


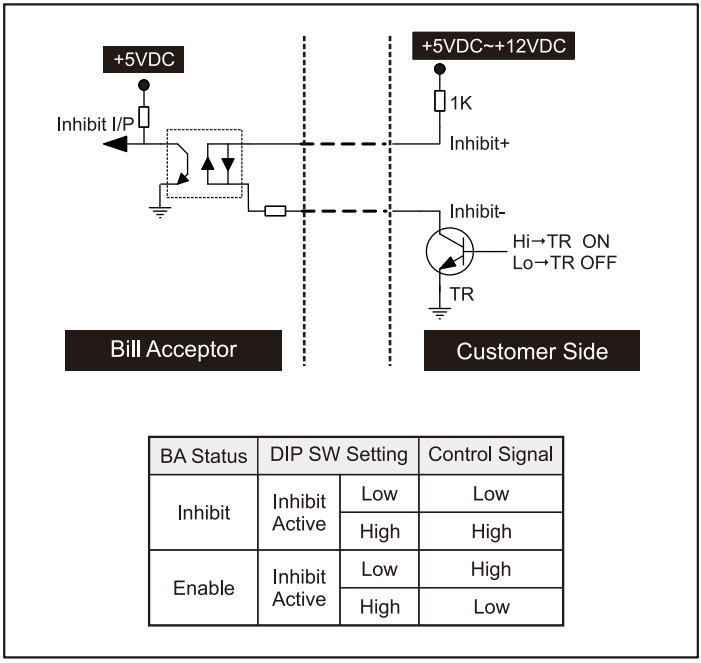


5-1-1. I/O Circuit

Pulse Interface

5-1-1 FIG.01

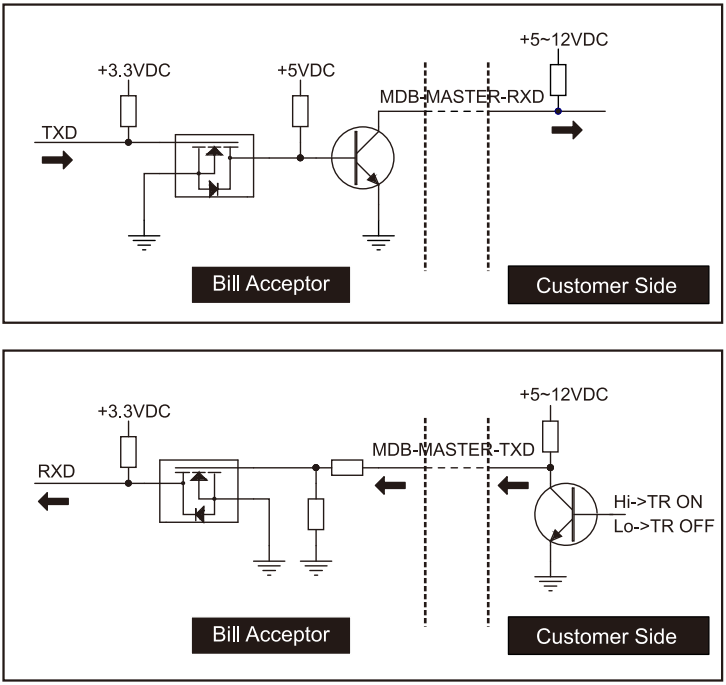




BA Status	DIP SW Setting		Control Signal
Inhibit	Inhibit Active	Low	Low
		High	High
Enable	Inhibit Active	Low	High
		High	Low

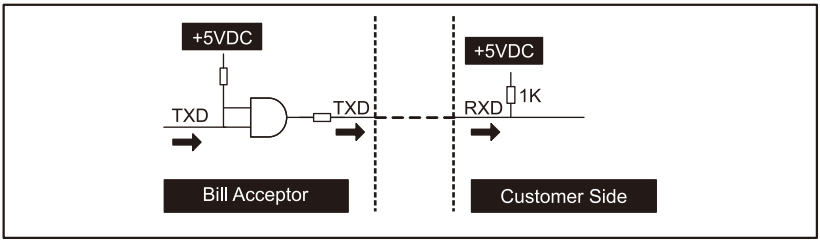
MDB Interface.

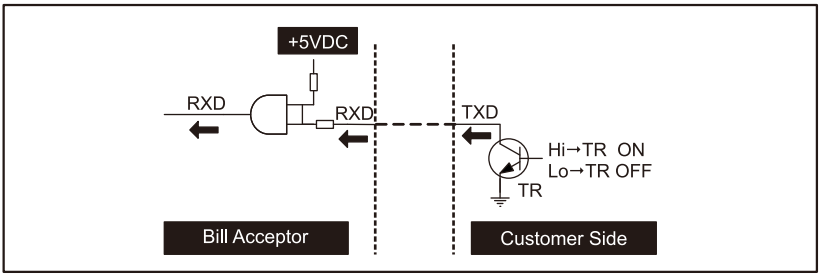
5-1-1 FIG.02



ICT-Protocol Interface.

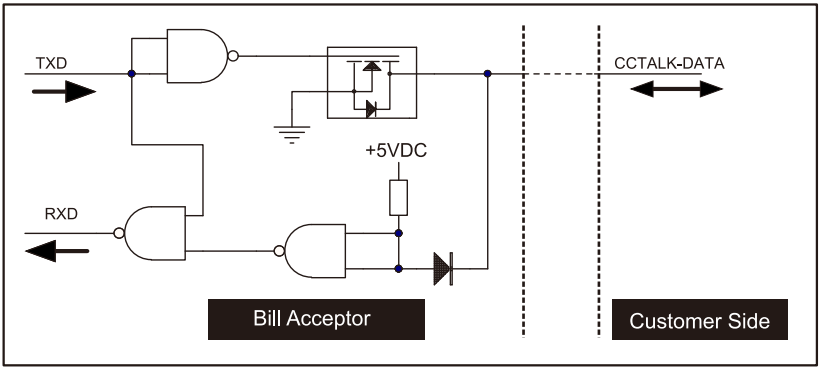
5-1-1 FIG.03





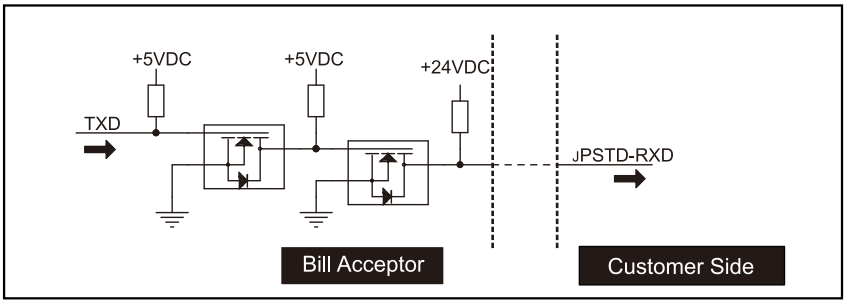
ccTalk interface

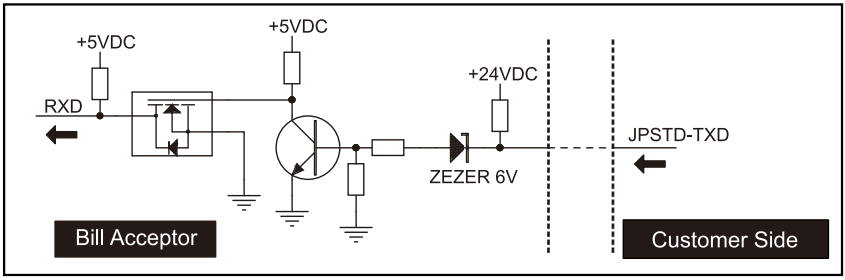
5-1-1 FIG.04

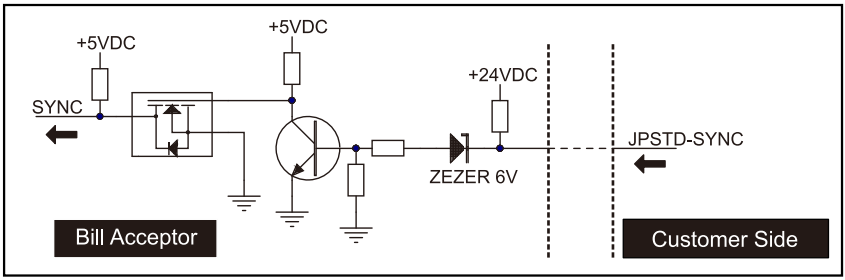


JPSTD Interface

5-1-1 FIG.05

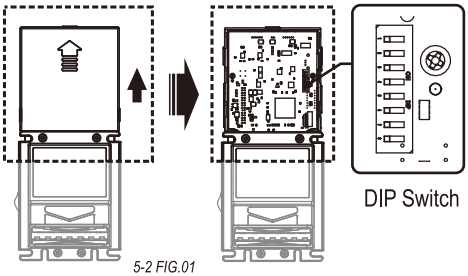




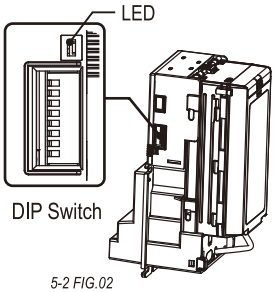


5-2. DIP Switch Setting

Two dip switches are located on as 5-2 FIG.01 the CPU board, and as 5-2 FIG.02 the sides of XBA.



5-2 FIG.01

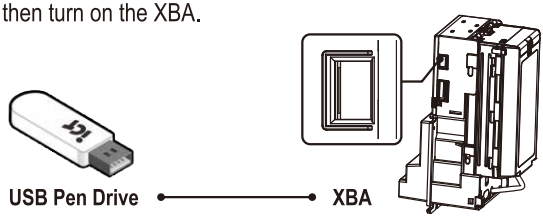


5-2 FIG.02

5-3. Firmware Download and Upgrade

Step 1. Put the “XBAxxx.bin” file into your USB Pen Drive.

Step 2. Turn off XBA, plug the USB Pen Drive into the USB connector on the XBA and then turn on the XBA.



Step 3. The LED in the rear side of bill insertion module will flash twice, then remove the USB Pen Drive from XBA.

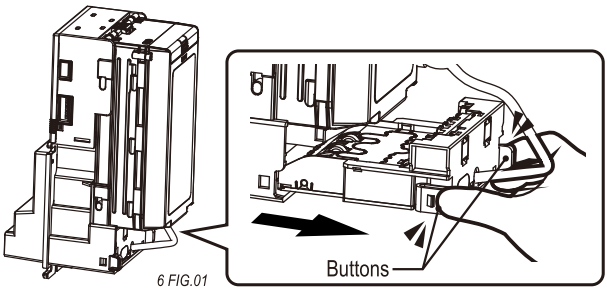
Step 4. Wait for about 30sec., then XBA will automatically reset and standby for normal operation.

6. Maintenance

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

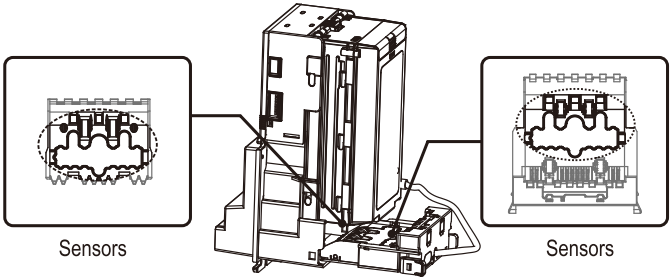
To clean the internal parts:

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



6 FIG.01

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



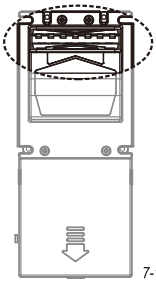
6 FIG.02

Maintenance Notice
(Any improper maintenance will result invalid warranty.)

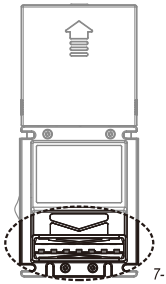
Recommended	**Mild, non-abrasive, soap water.**
DO NOT USE	**Organic solvent , Alcohol, Volatility liquid.**

7. Trouble Shooting

7-1. Bezel LED Errors



7-1 FIG.01



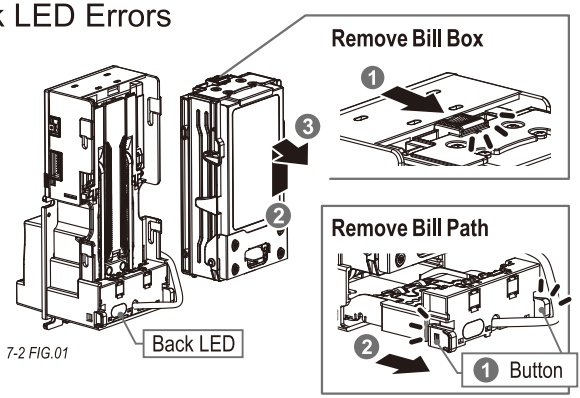
7-1 FIG.02

7-1 TABLE.01

LED Flashes		Status	Corrective Actions
RED	**GREEN**		
	1	White Card Calibration	Please calibrate with ICT white calibration card.
1		Bill jammed.	Remove the bill box by sliding the top button and the bill path(as 7-2 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	**1**	IR 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 it recurs, please contact ICT for technical support.

7-2. Back LED Errors



7-2 FIG.01

7-2 TABLE.02

LED Flashes **RED**	Status	Corrective Actions
1	White Card Calibration	Please calibrate with ICT white calibration card.
1	Bill jammed.	Remove the bill box by sliding the top button and the bill path(as 7-2 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+1	IR 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 it recurs, please contact ICT for technical support.

ICT Taiwan

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

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