NAUTILUS HYOSUNG

Operator Manual

MONiMAX2800SE System

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Revision History

Operator Manual - MX2800SE System

No.	Version	Date	Description of Change	Chapter
1	V01.00.00	2018/03/12	New Publication	All

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Chapter1. Preface

Purpose

▶ This manual is produced to describe how the customers operate Nautilus Hyosung's MX2800SE.
This manual details how the customers replenish the notes and paper and how they remove the jam at the MX2800SE.

Audience

▶ Customers and staffs of Nautilus Hyosung who use and operate the MX2800SE in each branches of bank.

Support Information

▶ If any question or error occurs while operating MX2800SE in compliance with this manual, please contact maintenance staffs of Nautilus Hyosung.
For the contact of maintenance staffs of Nautilus Hyosung, see the E-mail addresses and telephone numbers provided separately.

What is in This Manual

▶ MONiMAX referred to as "MX"

▶ This manual is designed to provide the operation guide for the MX2800SE and the detailed description of the following:
- Replenishing the notes and the receipt paper
- Emptying the notes
- Removing the jam like the notes and the receipt paper

▶ All information described in this manual is a licensed product of Nautilus Hyosung.

Some of the information in this manual may differ according to the network processor to be connected and may be subsequently updated by the bank's needs or the improvement by Nautilus Hyosung.

It is the policy of Nautilus Hyosung to improve products as new technology, components, software, and firmware become available. Therefore Nautilus Hyosung reserves the right to change specifications without notice.

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Terminologies

► In this document the terminology listed below is used as follows:

- Customer and consumer refer to any person who transacts business through the ATM.
- Device and unit refer to the standard and optional ATM equipment, such as monitor, card reader, printer and dispenser.
- Fascia refers to the entire front portion of the unit, including the portion where the customer transacts business.
- Module refers to a plug-in device that can be serviced or replaced.
- Note(s) and bill(s) refer to the individual documents loaded into and dispensed from the dispenser.
- Servicing and maintenance refer to the supervisor, operator and technician's tasks performed to keep the ATM operational.
- Screen refers to the text appearing on the customer display.

Abbreviations

► In this document the abbreviations listed below is used as follows:

#	Abbreviations	Description
1	AD board	Analog to Digital conversion Board
2	ADA	The American Disabilities Act
3	AP	Application Program
4	Assy	Assembly
5	BATT S/W	Battery Switch
6	CAM	Camera Unit
7	CDU	Cash Dispenser Unit
8	CE	Control Electronics
9	Earphone Jack	Voice Converter for Visually Disabled Persons (ADA)
10	EMV	Europay, Mastercard, Visa
11	EP	Elementary Program
12	EPP	Encryption PIN Pad
13	H/W	Hardware
14	I/F	Interface
15	ISO	International Standard Organization
16	JPR	Journal Printer
17	LCD	Liquid Crystal Display
18	MCU	Magnetic Card Unit
19	OPL	Operation Panel for Customers to Operate
20	OSD board	On Screen Display Board

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#	Abbreviations	Description
21	P/S	Power Supply
22	PIN	Personal Identification Number
23	PNC	Panel Control Board
24	PTR	Printer (mainly Receipt Printer)
25	S/W	Switch
26	SIU	Sensor and Indications Unit
27	SP	Service Provider
28	SPR	Slip Printer (Receipt Printer)
29	TTU	Text Terminal Unit (OPL or SPL)
30	VFD	Vacuum Fluorescent Display

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Safety Precautions (English)

▶ Common Safety Precaution

Precautions outlined this manual provide information on safe and proper handling of the product. Non-compliance of the precautions may result in injury or damage to the product.
This precaution symbol with sample term tells you safety warnings during equipment handlings.

▶ Please read the following instructions before operating equipment.

- Operate equipment in the order outlined in this manual.
- Follow precautions indicated in this manual, as well as the equipment itself. Failure to properly address these precautions may lead to injury or damage to the product.
- Avoid operations not addressed in this manual.
- If you cannot remedy system problems using the methods outlined in this manual, please refer to contact information listed in the manual.
- Any change or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

<Note!>
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

▶ Description of Precaution Symbols

Symbol	Description
	Electrical Shock Warning ▪ Do not remove cover. Only a maintenance engineer is allowed to open the cover. ▪ Do not touch. You may receive electric shock. ▪ Make sure to turn off the power when servicing the equipment.
	High Temperature Warning ▪ Do not touch the equipment when it is running. ▪ The equipment can get extremely hot and may cause a burn. ▪ Make sure to close the cover before running the equipment.

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	Use Precaution when Moving ▪ The equipment is heavy. Make sure at least 2 people lift or move the equipment. ▪ Do not attempt to move the equipment alone. You may be injured from dropping the heavy equipment.
	Fire Hazard ▪ Place the equipment in an area away from any combustible materials. ▪ The equipment may catch on fire from overheating or short circuit of the power supply unit.
	Disassembly Warnings ▪ Do not disassemble or modify the equipment unless you are a certified engineer. ▪ Contact the service center for maintenance, adjustments and repairs. ▪ Improper disassembly may cause fire or electrical shock.
	Collapse Precautions ▪ Do not place the equipment where the floor cannot sustain the weight of the equipment, or on slanted or unstable surface. ▪ Equipment may fall and cause injury or damage.
	Unplug the Equipment ▪ Stop using the equipment immediately if it smokes, emits an unusual smell, makes abnormal sounds, or if liquids or other foreign materials enter the equipment. ▪ If the above-mentioned abnormalities occur, immediately turn off the power, unplug the equipment and contact the service center. ▪ If you ignore these symptoms, the equipment may catch on fire or cause electric shock.

<CAUTION>

1. TO REDUCE THE RISK OF FIRE, USE ONLY No. 26 AWG OR LARGER TELECOMMUNICATION LINE CORD
2. RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSED OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS
3. FOR PLUGGABLE EQUIPMENT, THE SOCKET-OUTLET SHALL BE INSTALLED NEAR THE EQUIPMENT AN SHALL BE EASILY ACCESSIBLE
4. THE EQUIPMENT IS TO BE SECURED TO THE BUILDING STRUCTURE BEFORE OPERATION

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Précautions pour la sécurité (French)

► Précaution générale pour la sécurité

Précautions décrits de ce manuel fournissent des informations sur une manipulation sûre et appropriée du produit. Le non-respect des précautions peut causer des blessures ou endommager le produit.
Ce symbole de précaution avec le terme d'example vous indique des consignes de sécurité lors de la manipulation de l'équipement.

► Veuillez lire des instructions suivantes avant d'utiliser l'équipement

- Fonctionner l'équipement dans l'ordre indiqué dans ce manuel.
- Suivre les précautions indiquées dans ce manuel, ainsi que l'équipement lui-même. Le défaut de traiter correctement de ces précautions peut entraîner des blessures ou endommager le produit.
- Évitez des opérations non traitées dans ce manuel.
- Si vous ne pouvez pas résoudre des problèmes du système en utilisant des méthodes décrites dans ce manuel, veuillez se référer aux informations de contact figurant dans le manuel, s'il vous plaît.
- Certain changement ou des modifications dans la construction de ce dispositif qui ne sont pas expressément approuvés par la partie responsable de la conformité pourraient annuler l'autorité de l'utilisateur de faire fonctionner l'équipement.

<REMAQUE!>

Cet équipement a été testé et fondé pour se conformer aux limites pour un équipement numérique de classe A, conformément à la partie 15 des règles FCC. Ces limites sont conçues pour fournir une protection raisonnable contre des interférences nuisibles lorsque l'équipement est utilisé dans un environnement commercial. Cet équipement génère, utilise et peut émettre des fréquences radios et, s'il n'est pas installé et utilisé conformément aux instructions de ce manuel, peut causer des interférences nuisibles aux communications radios.
Le fonctionnement de cet équipement dans une zone résidentielle est susceptible de provoquer des interférences nuisibles dans le cas, l'utilisateur devra corriger ces interférences à ses propres frais.

► Description des symboles de précaution

Symbole	Description
	Choc électrique • Ne pas retirer le couvercle. Seul le technicien d'entretien est autorisé à ouvrir le couvercle. • Ne pas toucher. Vous pouvez avoir un choc électrique. • Assurez-vous d'éteindre l'appareil lors de l'entretien de l'équipement.

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	À haute temperature • Ne pas toucher l'équipement quand il est en marche. • L'équipement peut devenir extrêmement chaud et peut provoquer une brûlure. • Assurez-vous de fermer le couvercle avant de lancer l'équipement.
	Soyez prudent lors du déplacement • L'équipement est lourd. Assurez-vous d'au moins 2 personnes pour soulever ou déplacer l'équipement • N'essayez pas de déplacer l'équipement seul. Vous pouvez être blessés par la chute de l'équipement lourd.
	Risque d'incendie • Placer l'équipement dans une zone éloignée de tous les matériaux combustibles. • L'équipement peut s'enflammer de surchauffe ou de court-circuit de l'unité d'alimentation.
	Démontage • Ne pas démonter ou de modifier l'équipement, sauf si vous êtes ingénieur certifié. • Contacter le centre de service pour l'entretien, le réglage et la réparation. • Le mauvais démontage peut provoquer un incendie ou un choc électrique.
	Tomber • Ne pas placer l'équipement dont le sol ne peut pas supporter le poids de l'équipement, ou sur une surface inclinée ou instable. • L'équipement peut tomber et provoquer des blessures ou des dommages.
	Débrancher l'équipement • Cessez d'utiliser l'équipement immédiatement si il fume, émet une odeur inhabituelle, fait des bruits anormaux ou si des liquides ou d'autres matériaux étrangers dans l'équipement. • Si les anomalies mentionnées ci-dessus se produisent, éteignez immédiatement la puissance, débranchez l'appareil et contactez le centre de service. • Si vous ignorez ces symptômes, l'équipement peut prendre feu ou provoquer un choc électrique.

AVERTISSEMENT :

1. POUR RÉDUIRE LES RISQUES D'INCENDIE, UTILISEZ UNIQUEMENT AWG n ° 26 OU LA LIGNES DE TELECOMMUNICATION PLUS GROSSE
2. RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACEE PAR UN TYPE INCORRECT. DISPOSER POUR UTILISATION DES BATTRIES SELON LES INSTRUCTIONS
3. POUR LES APPAREILS RACCORDES, LA PRISE DOIT ETRE INSTALLEE PRES D'EQUIPEMENT POUR ÊTRE FACILEMENT ACCESSIBLE

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4. L’EQUIPEMENT DOIT ETRE SECURISE A LA STRUCTURE DU BATIMENT AVANT D'UTILISER

Related Document

▶ The related documents are listed as follows. If needed, please contact staffs of our technical support team and maintenance team.

- Installation Manual
- Service Manual
- Error Code Manual
- Op Function Manual
- Quick Reference Guide

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Chapter2. Introduction

About the MX2800SE

► MX2800SE is designed to meet the everyday demands of immediate cash needs for individuals with a compact size to fit in virtually any place. This Automated Teller Machine (ATM) is connected to a network processor to verify accounts and any other inquires through the insertion of a customer's card. MX2800SE is easy to use, easy to service and able to support customer's needs.

► The benefits that the new concept MX2800SE provides are as follows.

Removes inconvenience which occurs when bank clerks directly handle cash with customers and relieves workload upon tellers by processing withdrawal of cash automatically.

Allows tellers to calculate and close amount faster than the existing manual calculation.

Allows easy and quick installation and maintenance.

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The Exterior Overview

► The following picture shows the front of MX2800SE and key units.

The fascia provides the interface between the customer and MX2800SE.
The customer selects transactions and requests information at the fascia.

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Basic Features

▶ Important features of the MX2800SE is highlighted in the following list:

<Note!>

1. Your MX2800SE may not contain all the devices described in this section. Some devices are optional and some devices cannot be used in combination with other devices (mutually exclusive combinations).

Item			Specification	Remarks (Option)
Main Controller (Cortex-A8)	CPU		CPU : S5PV210 1.0GHz	
	Memory	DDR2	512MB	128MB X 4EA (32Bit Interface)
		NAND Flash	256MB	
	Operating System		Win_CE 6.0	
	USB Ports		USB2.0 1-Port , HUB2.0 4-Port	
	Serial Ports		8-Ports	
	VGA		On-Board	LVDS
	Communication		Modem & TCP/IP Selectable	
Customer Display	Display	Type	12.1” wide TFT LCD(1024*768)	
		Brightness	350 cd/m² (LED BU)	
	Privacy Filter		Option	Support Option
	Guide Light	Flicker LED	SPR/CDU/MCU/EPP	
	Signage		LED Inner Signage (ATM)	
Customer Input Method	Pin-Pad		EPP 8000M (PCI3.0 Compliant)	
	Function Key		Touch F-key 4 x 2 NDC	
	Touch Screen		N/A	
Cash Dispenser (CDU-L3) (CDU-M)	Number of cassettes & Denomination & Capacity		CST / Denomination / Capacity A / USD 20 / 1K or 2K B / USD 20 / 2K C / USD 20 / 2K	Cash Dispenser Option CDU-L3 (1K) CDU-M (2K,4K,6K)
	Maximum Dispense		40 Notes/1transaction	
	Reject Type		Note by Note Reject (200 bills Max)	
Card Reader (SANKYO DIP)	Type		EMV DIP Type	
	Magnetic Stripe		ISO 1,2,3 Read	
	IC card Support		Support	
Receipt Printer (SPR23-U)	Printing Type		Thermal Line Printing	
	Black Mark Paper Support		Support	

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Item			Specification	Remarks (Option)
	Paper Specification	Type	Thermal Roll Paper	
		Width	Max. 80mm	
		Outer Diameter	Max. 180Φ	
	Black Mark Paper Support		Support	
Journal	Electronic Journal		Support	-
Safety & Security	Specification		UL Business Hour Safety	Level-1 Option
	Locking device		E- Lock	Cencon Lock Option
	System Key		Common key	
	Safety Spec.	Safety Body	Steel Thickness : 2.3t	
		Safety Bottom	Steel Thickness : 6.0t	
		Safety Door	Steel Thickness : 3.0t	
	Alarm/Security		N/A	
	Terminal Block		N/A	
Additional function	Audio guidance		Support	
	ADA Volume Control		N/A	
	Heater		N/A	
	RF		Option	Kiosk-II Option
	Camera		USB Camera(Face)	
PowerSupply	Main Power Supply		100W Free Voltage (90~264VAC)	
	Battery		N/A	
Dimension & Environment	Dimension (HXWXD)		1,433 X 400 X 585.5 mm	
	Installation		Front Access/Operation Sample (Caster) Mass Product (Anchor Bolt)	
	Weight		About 130 Kg	
	Operational Temperature	Operating	5℃ ~ 35℃	
		Storage	0℃ ~ 40℃	
	Operational Humidity	Operating	25% ~ 85%	

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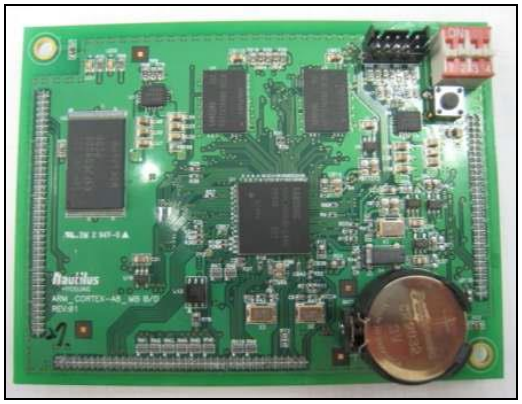
Devices of MX2800SE

Main Control Board

► This motherboard is applied to MX2800SE

Basic Specification & Sample Picture

Item		Specification	Remarks (Option)
CPU		CPU : S5PV210 1.0GHz	
Memory	DDR2	512MB	128MB X 4EA (32Bit Interface)
	NAND Flash	256MB	
Operating System		Win_CE 6.0	
USB Ports		USB2.0 1-Port , HUB2.0 4-Port	
Serial Ports		8-Ports	
VGA		On-Board	LVDS
Communication		Modem & TCP/IP Selectable	



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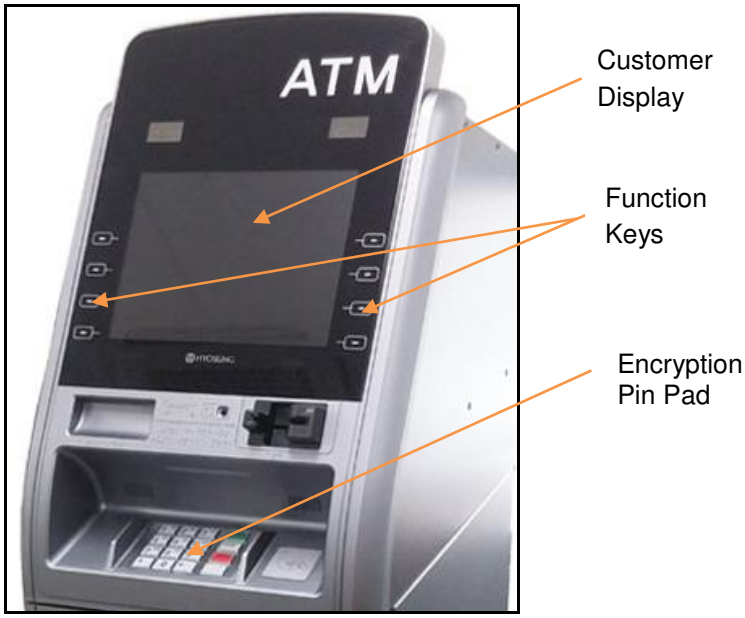
Customer Display & Keypad

► The customer display welcomes the customer and provides instructions for performing transactions at ATM.
During the transaction sequence, ATM prompts the customer to use the customer keypad to enter transaction information. The 16-key keypad uses a security module and encryption PIN pad technology to secure the information entered by the customer at the keypad.
The function keypads are made up of four keys mounted on each side of the customer display. The customer selects from the choices shown on the customer display and presses the corresponding function key.

Basic Specification & Sample Picture

Item			Specification	Remarks (Option)
Customer Display	Display	Type	12.1" wide TFT LCD (1024*768)	
		Brightness	350 cd/m² (LED BU)	
	Privacy Filter		Option	Support Option
	Guide Light	Flicker LED	SPR/CDU/MCU/EPP	
	Signage		LED Inner Signage (ATM)	
Customer Input Method	Pin-Pad		EPP 8000M (PCI3.0 Compliant)	
	Function Key		Touch F-key 4 x 2 NDC	
	Touch Screen		N/A	



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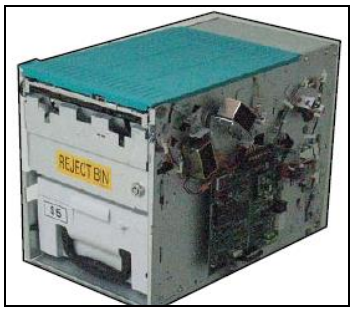
Cash Dispenser Unit

- The cash dispenser delivers media (cash) to the cardholder after the cardholder's request is processed by the network and the software. The media is drawn from the cassettes and transported to a slot in the fascia of ATM, where the cardholder can receive it. If the media is too mutilated or wrinkled to dispense, or if a multiple pick occurs, the dispenser sends the notes to the reject bin.

Basic Specification & Sample Picture

<table>
<tr><th>Item</th><th>Specification</th><th>Remarks (Option)</th></tr>
<tr><td>Number of cassettes & Denomination & Capacity</td><td><table><tr><th>CST</th><th>Denomination</th><th>Capacity</th></tr><tr><td>A</td><td>USD 20</td><td>1K or 2K</td></tr><tr><td>B</td><td>USD 20</td><td>2K</td></tr><tr><td>C</td><td>USD 20</td><td>2K</td></tr></table></td><td>Cash Dispenser Option
CDU-L3 (1K)
CDU-M (2K,4K,6K)</td></tr>
<tr><td>Maximum Dispense</td><td>40 Notes/1transaction</td><td></td></tr>
<tr><td>Reject Type</td><td>Note by Note Reject (200 bills Max)</td><td></td></tr>
</table>

<CDU 1K>



<CDU 2K>

<CDU 4K>

<CDU 6K>

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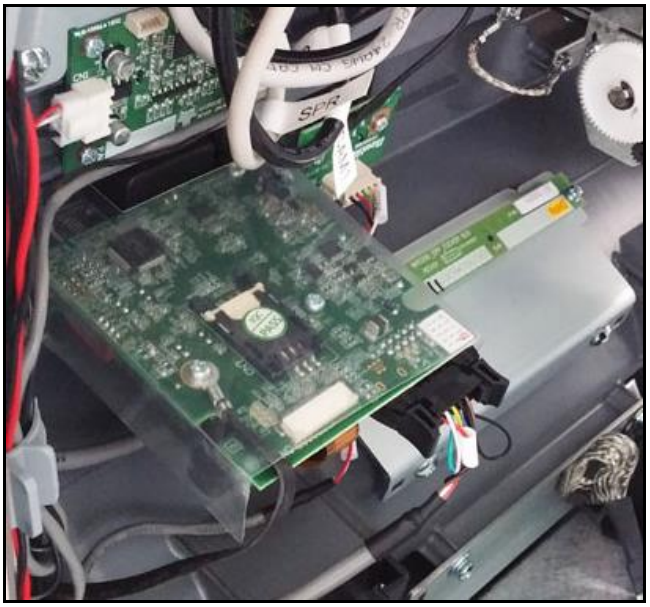
Card Reader

► The dip card reader is a manually operated device mounted directly to ATM fascia. The customer inserts an ATM card in the card entry slot and then removes the card to begin the transaction. The dip card reader can read magnetic stripe cards and memory chip cards. The dip card reader cannot retract, capture, or retain cards.

Basic Specification & Sample Picture

Item	Specification	Remarks (Option)
Type	EMV DIP Type	
Magnetic Stripe	ISO 1,2,3 Read	
IC card Support	Support	



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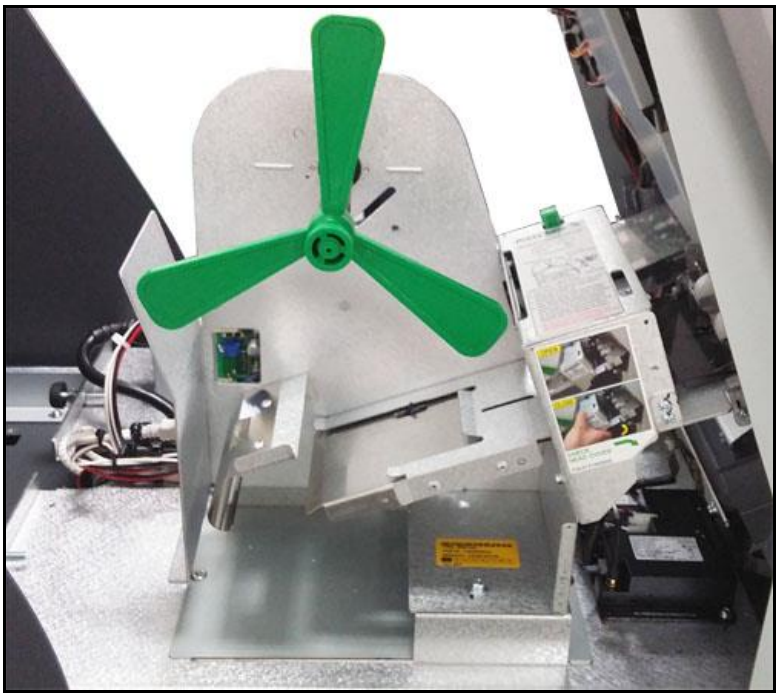
Receipt Printer

► The receipt printer provides a printed receipt of the customer's transaction.
The transaction information can include the amount, ATM number, location and other desired information.

Basic Specification & Sample Picture

Item		Specification	Remarks (Option)
Printing Type		Thermal Line Printing	
Black Mark Paper Support		Support	
Paper Specification	Type	Thermal Roll Paper	
	Width	Max. 80mm	
	Outer Diameter	Max. 180Φ	
Black Mark Paper Support		Support	



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Power Supply

► This Power Supply is applied to MX2800SE

Basic Specification & Sample Picture

Item	Specification	Remarks (Option)
Main Power Supply	100W Free Voltage (90~264VAC)	
Battery	N/A	

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Chapter3. For the beginning operator

Upper Front Body Opening

▶ Opening Upper Front Body

1. Open the Upper Front Body with key as the picture below.

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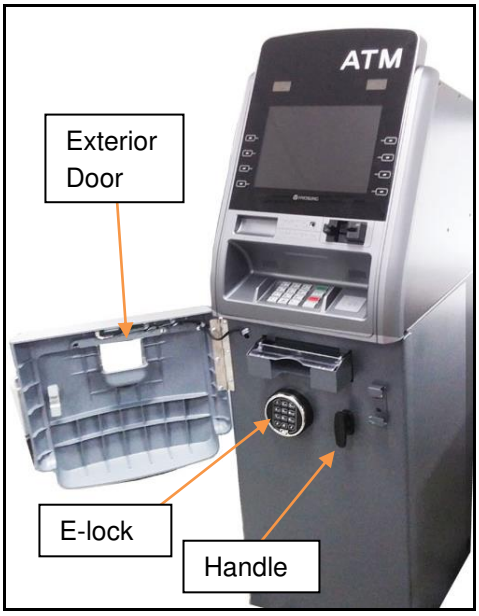
Security Enclosure Opening

▶ Open the Security Enclosure as follows

1. Open the Exterior Door with key.
2. Unlock the E-lock referring to “Locking Device – Electronic Lock”
3. Turn the security door handle counterclockwise, and then pull the security door to open it.



4. Use the reverse order of above description to close the security cover and door.

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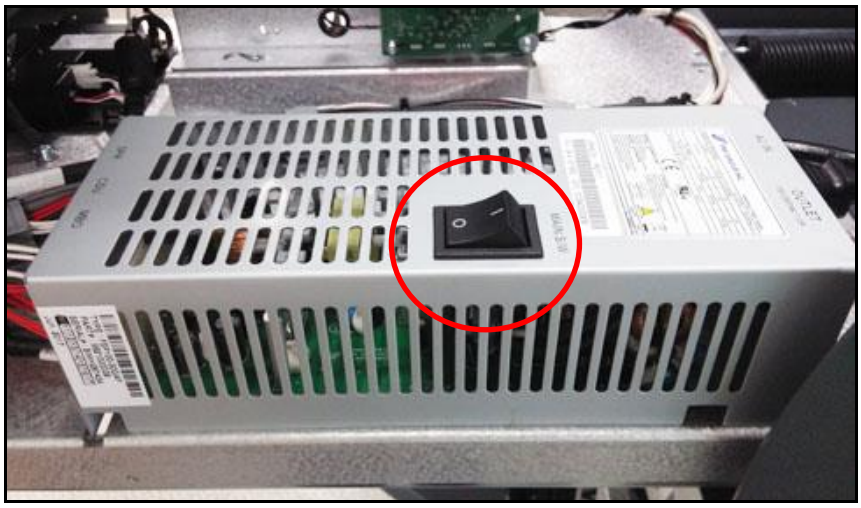
Switching Power On/Off

Switching Power On

▶ The power supply unit allows the user to turn on/off the system, enter power-failure mode, and perform other sequences.

1. The system turning-on process is as follows
2. Open the upper front body
3. Press the power switch (“I”).
4. The system will be turn on automatically



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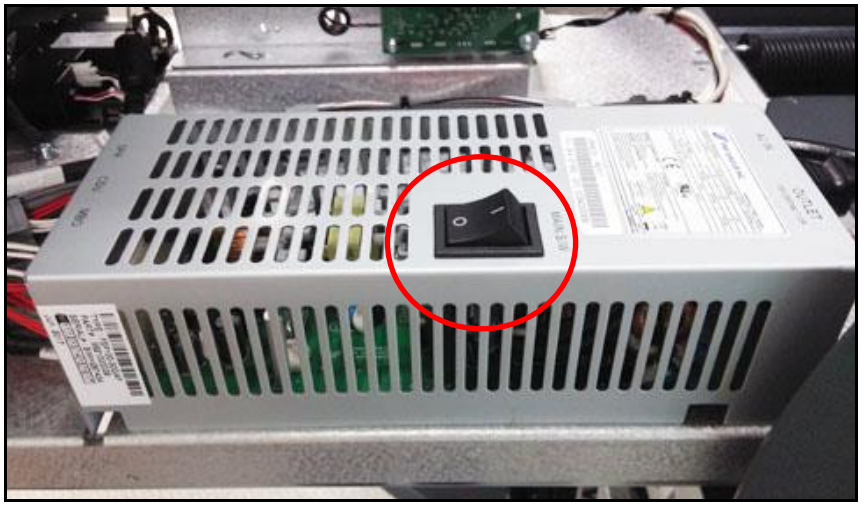
Switching Power Off

► The system turning-off process is as follows

1. Open the upper front body
2. Press the power switch (“O”)
3. The system will be shut down automatically
4. The operating system will shut down then power will turn off.



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Locking Device – Electronic Lock

► Feature
- UL listed assurance
- RoHS Compliance
- 2 Codes : Manager Code and User Code
- Low power consumption
- One 9V alkaline battery power supply
- Low battery alert
- Easy Battery Change
  Slide upward on the EntryPad to release from snapfit mounting system to change the 9V battery on the back of EntryPad
- 5 minutes penalty Lockout upon entry of 4 incorrect codes
- Rugged stainless steel Entrypad housing
- Reset button to set the lock back to factory default
- Standard footprint and mounting pattern, easy retrofit for any mechanical or electronic safe lock
- Can be paired with any other SecuRam motorized lock acuators

► Electrical Characteristics

Item	Value	Remarks
Operating Voltage	4.5V ~ 12.0V	
Current consumption	Max. 15μA Max. 20mA	Standby Active
Power Supply	One 9 Volts Alkaline battery	
Battery Low Voltage	5.2 ± 0.2V	
Operation Temperature	-40 ~ 70°C (-40°~158°F)	
Operation Humidity	Max. 90%	
Code Length	6 digit	

► Your safe lock comes with one pre-programmed entry code:
•The User Code is set to 1-2-3-4-5-6

Step 1: Open Lock
•Enter the User Code 1-2-3-4-5-6-#
•You will hear 2 beeps
•Lock Opens.

<Note!> It is highly recommended to change your User Code from the factory default of 1-2-3-4-5-6 to a code that only you know.

Step 2: Change the User Code
•Enter “0” six times, you will hear 2 beeps
•Enter the existing code 1-2-3-4-5-6, you will hear 2 beeps
•Enter a new 6 digit code, you will hear 1 beep
•Re-Enter the new 6 digit code, you will hear 1 beep

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<Note!>

1. Lost Combinations: The warranty does not cover lost or forgotten combinations.
   Obtaining the supercode or mastercode is not included by the warranty and must be obtained from the safe manufacturer.
2. For more operating instructions, contact the service staff.

► SafeLogic Basic Series -MANAGER- Operating Instructions

This MANAGER INSERT is for the SafeLogic Basic Series EC-0601A EntryPad used in conjunction with EL-0601, EL-0701, EL-0801 or EL-0901 lock bodies.

<Note!> If the manager code isn't issued to you, please skip the associated section.

1. Manufacturer default codes
   The SafeLogic Series safe lock system comes with two codes the Manager Code and the User Code as follows:
   a. The Manager Code is set to 1-1-1-1-1-1
   b. The User Code is set to 1-2-3-4-5-6

2. Functions of the Manager Code
   a. Unlock safe lock system
   b. Change Manager Code
   c. Add or Delete the User Code
   d. Enable or Disable the User Code

MANAGER PROGRAMMING INSTRUCTIONS

ALWAYS PERFORM OPERATIONS WITH THE SAFE LOCK SYSTEM UNLOCK AND THE SAFE DOOR OPEN.

Before closing the door, make sure all the program changes are correct.

The system will not allow the Manager Code or User Code to be set to six zeros.

1. To Change the Manager Code
   a) Enter "0" six times. Two beeps will sound, indicating the entry is valid and the system is awaiting the code change.
   b) Next, enter the existing six (6) digit code. Two beeps will sound, indicating the entry is valid.
   c) Enter the new six (6) digit code. One beep will sound, indicating the entry is valid.
   d) Re-enter the new six (6) digit code. One beep will sound, indicating the codes entered in steps c and d are the same and the code changing process is successful.
   e) If Three Beeps sound, the code change process has been unsuccessful. The existing code is still valid. Repeat steps a to d.

<Note!>

a) Verify the new code at least 3 times before closing the door to make sure the code has been programmed correctly.
b) The system will revert to standby status if there is no key press within 10 seconds. Standby status is indicated by two short beeps.

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1. To Add the User Code

<Note!> By default the system will have a User Code installed with a default code of 1-2-3-4-5-6. If this code has been deleted, follow these steps to add the User Code:

a) Enter the Manager Code and hold down the last digit of this code. Two beeps will sound indicating a valid code entry. Continue to hold down this digit until two additional beeps sound. This indicates that the system is now in program mode.
b) Press button “1”. Two beeps will sound, indicating that the system is ready to receive the new User Code
c) Enter a six digit code. One beep will sound.
d) Repeat the six digit code. One beep will sound, indicating that the six digit codes entered were the same and the addition of the User Code was successful.
- If 3 beeps sound, the programming attempt was unsuccessful. Repeat steps a) through d).

<Note!>
a) Verify the new code at least 3 times before closing the door to make sure the code has been programmed correctly.
b) The system will revert to standby status if there is no key press within 10 seconds. Standby status is indicated by two short beeps.

2. To Disable the User Code
a) Enter the Manager Code and hold down the last digit of this code. Two beeps will sound indicating a valid code entry. Continue to hold down this digit until two additional beeps sound. This indicates that the system is now in program mode.
b) Press button “2”. Two beeps will sound, indicating that the system has disabled the User Code

3. To Enable the User Code
a) Enter the Manager Code and hold down the last digit of this code. Two beeps will sound indicating a valid code entry. Continue to hold down this digit until two additional beeps sound. This indicates that the system is now in program mode.
b) Press button “1”. Two beeps will sound, indicating that the system has enabled the User Code

4. To Delete the User Code
a) Enter the Manager Code and hold down the last digit of this code. Two beeps will sound indicating a valid code entry. Continue to hold down this digit until two additional beeps sound. This indicates that the system is now in program mode.
b) Press button “3”. Two beeps will sound, indicating that the system has deleted the existing User Code

5. To Reset the Lock back to Factory Default
a) Disconnect the battery
b) Disconnect the cable from the lock
c) Using a poke tool (paper clip or other) depress the Reset button 3 times. This discharges any latent energy stored in the capacitors inside the lock.

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<Note!> The Reset button is located on the back of the lock, under the round QC sticker. You will see the word Reset above the Reset access hole.

d) Now press and hold the Reset button. While holding down the Reset button, reconnect the cable to the lock. Still continuing to hold down the reset button, reconnect the 9V battery.
e) The lock will continue to beep until the Reset button is released.

<Note!> If the EntryPad does not beep, repeat steps a) through e) again.

f) The codes in the lock have been restored to factory default as follows:
- The Manager Code is 1-1-1-1-1-1
- The User Code is 1-2-3-4-5-6

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Optional Locking Device - Cencon Lock

▶ Security Door with Cencon

The Cencon lock is highly-secured, advanced-design lock. Even though the lock is electromechanical, they require no wiring or batteries for opening the lock because they are self-powered. Power is generated by turning the dial knob on the lock to the left (counter-clockwise). After several turns of the knob, enough power is generated to allow the microprocessor in the lock to function.

▶ Opening and closing the Security Door

Each Cencon Lock is shipped from the factory in Shelved Mode. The One Time Combination feature which requires a Smart Key is not available when the lock is shelved. Instead, the Shelved Mode combination is used to open the lock without any Smart Key. The default Factory Combination is set to 50-25-50. Practice opening the lock in shelved mode with the default factory combination until you are comfortable with its operation. The default combination may be changed, in which case the new combination would be used to open the lock while in Shelved Mode. The correct opening procedure for a shelved lock in:

1. Turn the dial to the left (CCW), using full wrist turns, until the letters “EC” (Enter Combination) appear on the LCD.

<Note!>
If you are operating a Cencon lock and **–dL** appears on the display during an operation, it indicates that you should **d**ial **L**eft (Counter Clockwise). The purpose is both to give the lock additional power and to ensure the lock bolt is fully extended.
CW = Clockwise; CCW = Counter Clockwise

2. Enter the factory combination of 50-25-50 by sequentially pressing those six buttons. The LCD will display the entered number.

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3. When the combination has been correctly entered, the LCD will read “OPr” meaning “Open right.”

4. Turn the dial right (CW) until it stops. The lock’s bolt is now retracted and the lock is open.

5. Turn the handle to the left (CCW) and open the security door.

6. Turn the dial a minimum of one complete rotation to the left (CCW) to extent the bolt.

<Note!>
After opening and closing any lock, you should always check to ensure that the lock is physically relocked (i.e., bolt fully extended and locked in place) by turning the dial to the right. If the bolt does not retract, you can be assured the lock is secured.

Helpful Hint:
At any point while entering the combination during an opening sequence, if you notice that an incorrect number was pressed on the keypad, you may clear the entire operation and start again by pressing the star (*) key. This allows you to return to the EC prompt

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without getting a wrong try error (lightning bolt).

Caution - Lock Out (LCO):
When the combination is incorrectly entered, a lightning bolt error will flash on the display (with no other numbers following it). To clear this error and start again, press and hold the star (*) key. Even in Shelved Mode, it is important to avoid getting 5 wrong combination attempts in a row without a successful opening in between because the lock will be put into Lock-Out condition, displaying, "LCO." Clearing the LCO condition in Shelved Mode requires waiting 5 minutes and then entering the correct combination.

▶ Changing Shelved Mode Combination

For Cencon Locks with a code level of 71[1], or greater, you may change the Shelved Mode combination. You may change the default Factory Combination of 50-25-50 to a new combination to be used while the lock is still in Shelved Mode. Once you have changed the combination for the first time, you may want to change the combination again to a different Shelved Mode combination. You can even change it back to the Factory combination of 50-25-50.

This is an option that is only available while the lock is in Shelved Mode and is intended only for temporary use after the ATM is deployed but before the lock is activated. It is not recommended to keep the Cencon lock in this Shelved Mode condition, due to lack of security and control.

Required Items:
Change Key, Current Shelved Mode Combination

<Note!>
You can only change the Shelved Mode combination while operating in Shelved Mode. Once a lock is “activated” in any mode, the Shelved Mode combination returns to the Factory Default of 50-25-50

To change the Shelved Mode Combination:

1. Power Lock → EC
   Turn the Dial to the left (CCW) until “EC” (Enter Combination) is displayed.

2. EC → Enter Shelved Mode Combination → OPr
   Enter the current Shelved Mode combination (either 50-25-50 or a changed Shelved Mode combination) by sequentially pressing those digits on the lock keypad. The

[1] It is sometimes necessary to determine the level of the Cencon Lock with which you are working. This can be done by entering a command via the keypad. The lock level will then be displayed on the LCD. Use the following procedure:
1) Power the lock by turning the dial to the left (counter clockwise) until EC is displayed.
2) Enter the # 1 keypad command. Then the lock displays a string of characters on the LCD, displaying two characters at a time. The best thing to do in analyzing the lock level is to write down the entire string and then pick out the portions of it that are significant to you, or if you are experiencing a problem with the lock, report the entire string to the Tech Support group.

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numbers will be displayed on the LCD as they are entered. When the combination has been correctly entered, the LCD will read **OPr**, meaning "**OP**en **r**ight."

3. OPr → Retract Bolt
   Turn the Dial to the right (CW) to retract the bolt

4. Open Door

5. Insert Change Key
   Insert the change key into the change key socket on the back of the lock.

   WARNING:
   Do not close the door.
   Leave the door open during this process until your are comfortable opening the lock with the new combination.

6. Extend Bolt
   Turn the Dial to the left (CCW) to extend the bolt.

7. Power Lock →
   Turn the dial to the left (CCW) until (the Change Key symbol along with Enter Combination) is displayed.

8. → Press #8 → EcF
   Press the “#” button followed by the “8” button. EcF (Enter current Factory combination) will be displayed

9. EcF → Enter Current Shelved Mode Combination → EnF
   Enter the current shelved mode combination, “EnF” (Enter new Factory combination) will be displayed.

10. EnF → Enter New Combination → Cnf
    Select and enter the new combination. “CnF” (confirm new Factory combination) will be displayed

11. Cnf → Enter New Combination → POC
    Enter new combination again to confirm. POC (Pull Out Change key) will be displayed.

    WARNING:
    Record the new combination and store it in a secure place. If this combination is lost or forgotten, there is no alternate way to open the lock.

12. POC → Remove Change Key → EOP
    Remove the change key. EOP (End Operation) is displayed.

13. EOP → Power Lock → EC
    Turn the dial to the left (CCW) until EC (Enter Combination) is displayed.

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14. EC → Enter New Shelved Mode Combination → OPr
    Enter the new shelved mode combination by pressing those digits on the lock's keypad. The numbers will be displayed on the LCD as they are entered. When the combination has been correctly entered, the LCD will read OPr, meaning "**OP**en **r**ight."

15. OPr → Retract Bolt
    Turn the Dial to the right (CW) to retract the bolt.

16. Close Door

17. Extend Bolt
    Turn the Dial to the left (CCW) to extend the bolt.

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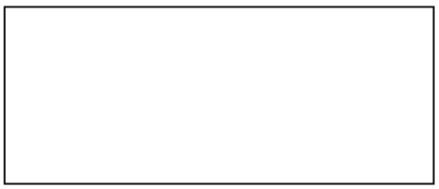
Chapter4. Cash Dispenser

Bill Conditions

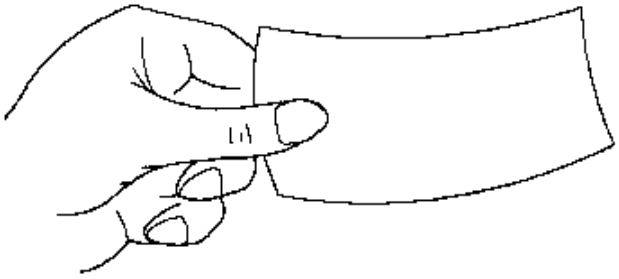
▶ **Acceptable condition**

1. Bill which is very clean and can readily be recognized as a true bill



2. Bill has sufficient life or sizing to be handled easily

3. Bill which can be manually held straightly when one end is held by a hand and the bill is slightly curved vertically



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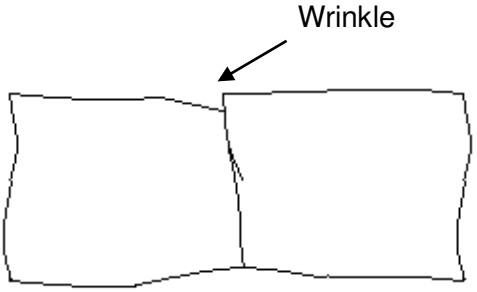
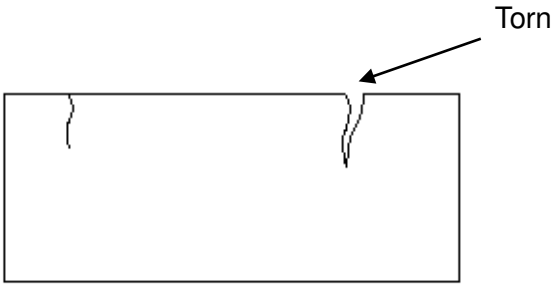
▶ **Unacceptable condition**

1. Bill having serious wrinkles, torn or broken section wherein paper fiber is broken and separation begins.

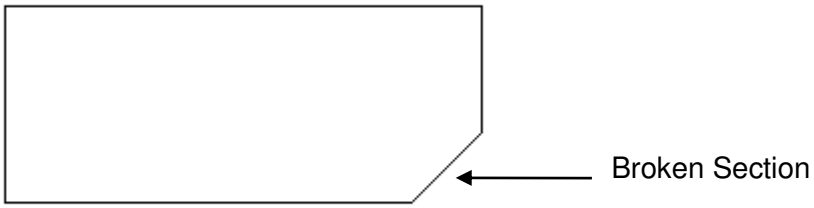
✓ Wrinkle



✓ Torn



✓ Broken section



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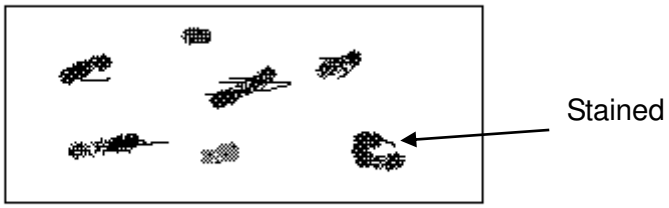
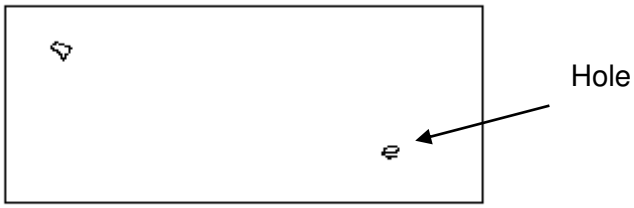
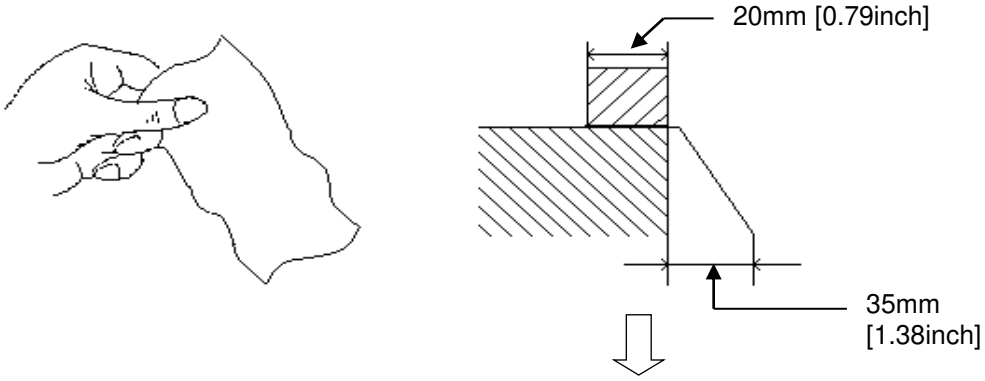
2. Bill having adequate life or sizing, but stained seriously



3. Bill with holes (Perforated bill)



4. Bill ragged and cannot be held straightly when one end is supported by a hand



When the bill is held by 20mm [0.79inch] and the straightness of the bill is 35mm [1.38inch] or less, it cannot be used

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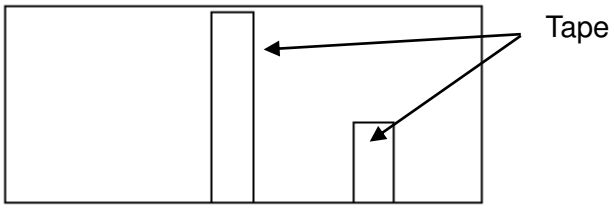
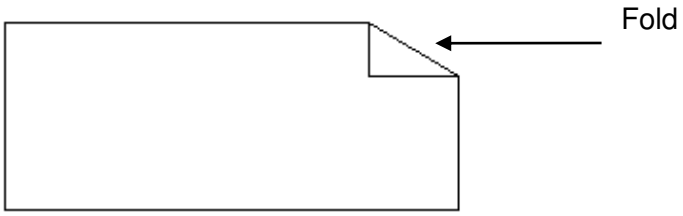
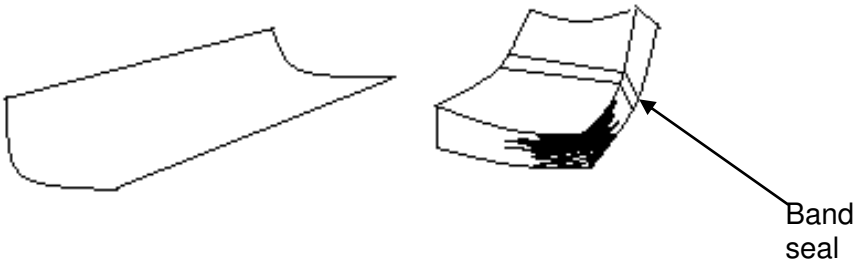
5. Bill with cellophane tape, scotch tape, etc



6. Bill with folds



7. Gradually curved bill (bills tied by hand seal, etc)



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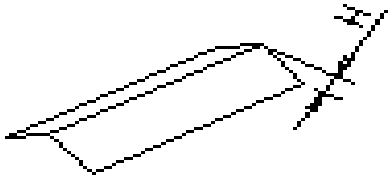
8. Bill with folded lines

✓ Case 1

✓ Case 2

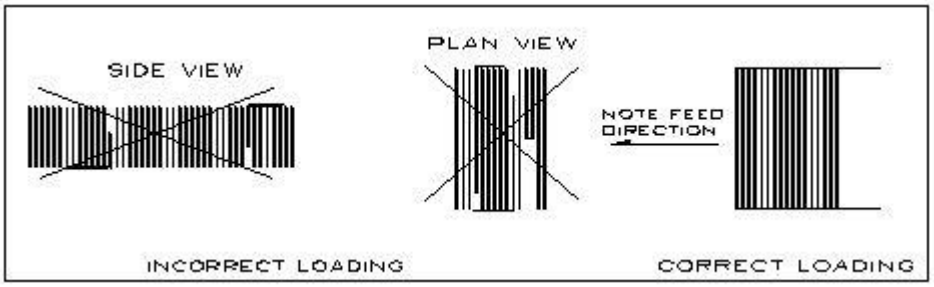
✓ Case 3



☞ Bill distortion should not exceed 10 mm [0.39inch]

▶ **<u>Prior to replenishing the cash cassette with the notes,</u>**

1. Fan the notes so that the notes are not sticking together.
2. Remove all notes with holes or notes that are torn.
3. Unfold the folded notes.
4. Place the notes correctly.



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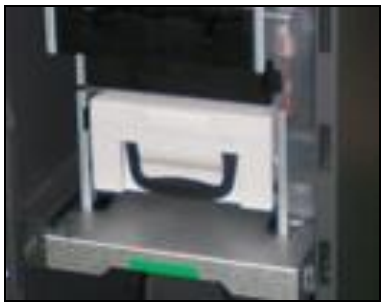
CDU-L3

How to Replenish the Cash Cassette

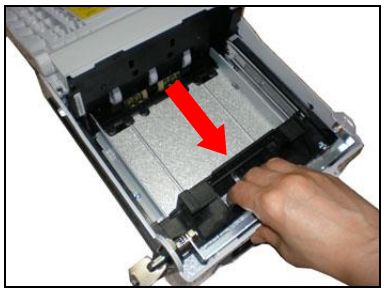
1. Open the Security Cover and Door.



2. With one hand holding the cash cassette handle and the other hand supporting the cash cassette from the bottom, pull it out carefully.

3. Place the cash cassette on a flat level platform and turn the cassette key clockwise to unlock the cassette cover. Then lift the cassette cover.

4. Pull the cash plate back until it is locked against the cash plate latch. And then, replenish the cash cassette.



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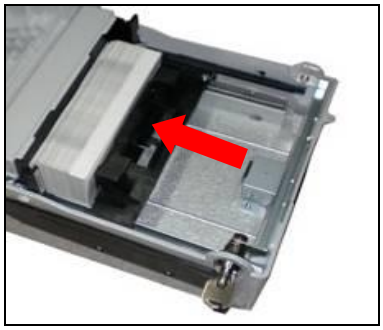
5. After replenishing the cash cassette, release the cash plate from the cash plate latch and allow it gradually to take up its position behind the notes.



6. After closing the cassette cover, turn the key counterclockwise

7. With one hand holding the cash cassette handle and the other hand supporting the cash cassette from the bottom, place the cash cassette carefully on the set guide of the Cash Dispensing Unit and push it in until it is locked in place.

8. And then close the security door.

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How to Empty the Reject Bin

1. Open the reject bin cover.

2. Remove the notes in the reject bin and close the reject bin cover.

[PRECAUTION!]
Don’t recycle any bill in reject box into cassette.
Doing so will cause not only the same reject problem, but other unexpected problems such as note jam on cash dispenser

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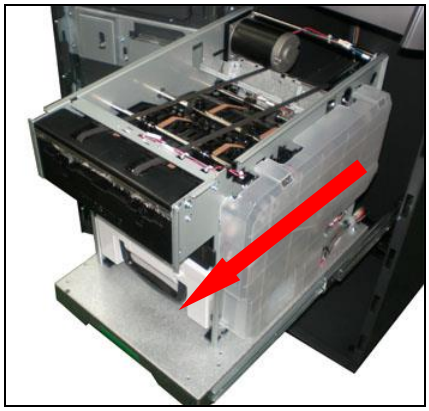
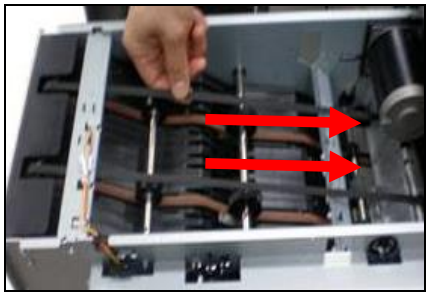
How to Clear Jam

1. Turn power off first.
   Pull the rail on the bottom of the cash dispenser outward.



2. Move the belt in order to move jammed note into a well removed position
3. Take out the jammed note carefully.



[WARNING!]
If the belt is detached from the Roller, the lifespan of the belt can be dramatically reduced which can result in breakage. Therefore, it is extremely important to check if the belt is positioned correctly after removing the jammed bills.

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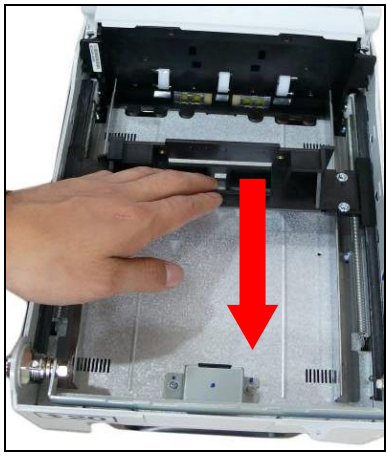
CDU-M

How to Replenish the Cash Cassette

1. With one hand holding the cassette handle and the other hand supporting the cash cassette from bottom, pull it up and out carefully.

2. Place the cash cassette on a flat level platform and turn the cassette key clockwise to unlock the cassette cover. Then lift the cassette cover.

3. Pull the cash plate back until it is locked against the cash plate latch.



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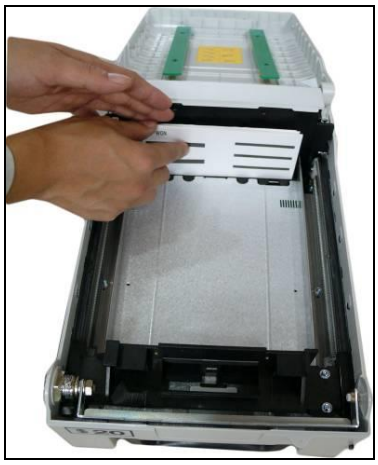
[PRECAUTION!]
Be careful not to hurt your hands when the black push-plate fails to get locked and suddenly recovers its positions

4. Replenish the cassette (Take note as below)



[PRECAUTION!]
Don't replenish more cash than recommended capacity. It means that it should be replenished less than 2,000 bills per cassette for new bills. Make sure that Cash Low Bracket in cassette will not be extruded outside cassette after replenishing cash.

5. Unlock the cash plate by pulling it again and move it smoothly.

6. Close the cassette cover and turn the cassette key counterclockwise until it is locked. Remove the key when it is locked.

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7. With one hand holding the cassette handle and the other hand supporting the cassette from the bottom, place the cassette carefully on the set guide of the CDU and push it in until it is locked in place.

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How to Empty the Reject Bin

1. Insert the reject box key, turn it clockwise.
2. Open the lid of reject box.

3. Take bills from the reject box and close the box with key.

[PRECAUTION!]
Don't recycle any bill in reject box into cassette. Doing so will cause not only the same reject problem, but other unexpected problems such as note jams on cash dispenser

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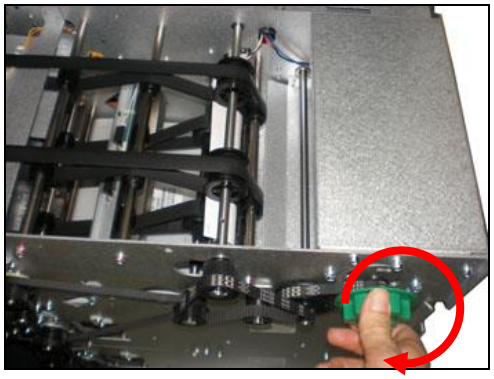
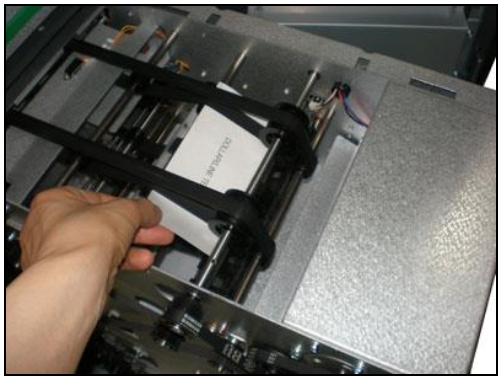
How to Clear Jam

1. Turn power off first and pull the rail of CDU outward while pressing the green button on the CDU.

2. Turn the pulley located in left upper in order to move jammed note into a well removed position.



3. Take out the jammed note carefully.



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4. Remove the cash cassettes to check whether there is any jammed note inside of CDU body. If so, remove the jammed note from it.

[WARNING!]
If the belt is detached from the Roller, the lifespan of the belt can be dramatically reduced which can result in breakage. Therefore, it is extremely important to check if the belt is positioned correctly after removing the jammed bills.

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Chapter5. Receipt Printer

Receipt Paper

► Basic specifications of the Receipt Printer are summarized as follows.

Item		Specifications	Note
Printing Type		Thermal Line Printing Type(8dots/mm)	
Maximum Print Length		40 letters/line (based on Alpha Numeric value)	
No. of Print Lines		Max. 21 lines/print (based on 1print=101mm)	
Valid Printing Width		Max. 91mm	
Type of Printer Letter		English / Number, Latin	
Paper	Type	External Printing Thermal Paper	
	Width	79.5±0.5mm	
	Exterior	Max. φ180mm	
Type of Paper Setting		Semi-Auto loading	
Type of Receipt Dispensing		Dispensed separately	
END Detection Function		Yes	
Number of Transaction		About 4,100 transactions/roll (Φ180)	Based on 1 transaction = 101mm (thin type: 55g paper)

► Paper Handling Precautions

1. Store it away from high temperature and humidity:
   If the paper is stored in a place where temperature is above 50℃ or humidity is above 90% RH, the coloring capability may deteriorate or the paper surface may inflate.
2. Refrain from exposing to direct sunlight:
   The paper surface can be inflated if you expose it to direct sunlight or leave it under the fluorescent lamp for a long time.
3. Keep it away from the organic solvents:
   Paper color may change if the paper comes in contact with organic solvents or glues containing organic solvent.
4. Keep it away from plastics:
   If the paper comes in contact with materials containing plastics, its coloring capability may deteriorate or de-coloring of the paper may occur.
5. Store the paper roll separately to prevent damage to the paper.
6. Do not connect the papers with tape.
7. Make sure the paper end is not attached to the paper pipe.
8. Make sure the paper is rolled evenly.

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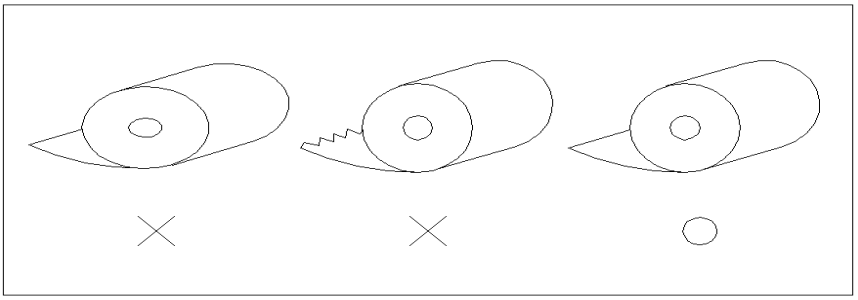
9. Miscellaneous:
   If the paper comes in contact with carbon copy paper or if the paper surface is scratched with a metallic object, de-coloring may occur.

How to load the receipt paper

► Prior to loading the receipt paper, the following must be kept in mind.

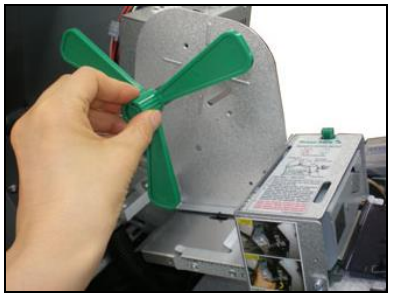
<Note!>

1. Load a paper roll into the unit with the shape of the roll kept intact.
   (Deformed roll may cause jamming.)

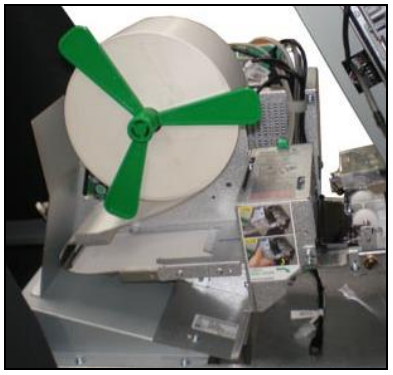


2. The leading edge of the roll shall neatly be cut prior to loading the roll. Correct shape of the paper roll

1. Open the upper front panel with key.
2. Pull off the roll guide from the rod and place the receipt roll referring to the diagram sticker as shown in picture below.



3. Attach roll guide to the rod and place the end of the roll between the upper guide and lower guide.



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4. After feeding the paper to a certain extent, the roll will automatically feed itself to the correct position. (If everything is done correctly, one sample receipt will be cut, then remove the cut sample receipt.)

<Note!>

Refer to diagram stickers placed on the receipt printer.

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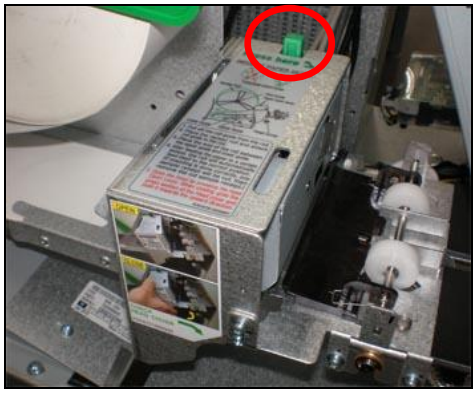
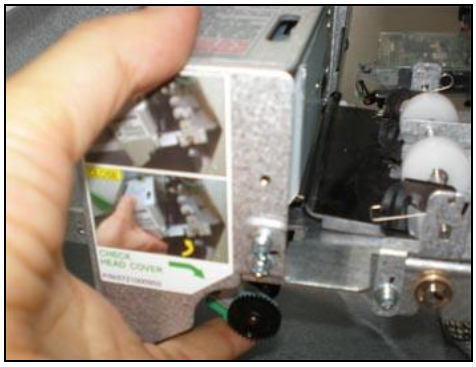
How to Clear a Receipt Jam

1. First, check if there is a jammed paper around transparent guide.
   If so, after pressing the green lever, lift up the transparent guide and remove the jammed paper.



2. After removing paper jam, be sure to close the head cover by pushing it up as shown picture below (refer to the diagram sticker).



<Note!>
After all paper jams have been cleared, reinstall the paper and test the printer using Diagnostics.

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Notes

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