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OWNER'S MANUAL

Hyosung 1800CE



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Revision Record

Date	Page	Version	Description of Change
November 2007	All	1.0	New Publication
January 2008	Chapter 2,5,6,7	1.1	<ul style="list-style-type: none"> - Modifying pictures of the Chapter 5,6,7 (5-2, 12, 13, 15, and 6-2, 50, 86, 87, and 7-48, 49, 52, 54) - Updating "Description of Precaution Symbols" in Chapter2.
April 2008	Chapter 6	1.2	<ul style="list-style-type: none"> - Updating "Error Code Table" in Chapter 6. (Addition of error code : 2000500, D00C100, D00C200, D410000, D410100)
July 2008	Chapter 6, 7	1.3	<ul style="list-style-type: none"> - Updating screen and description for each menu and its sub menus in Chapter 6. - Updating error codes in Chapter 7.
March 2009	Chapter 7	1.4	<ul style="list-style-type: none"> - Updating error codes in Chapter 7.

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Chapter 1. Introduction

1. Introduction

1.1 About the NH-1800CE

The NH-1800CE 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 inquiries through the insertion of a customer's card. The NH-1800CE is easy to use, easy to service and is able to support customer's needs.

1.2 Features

H/W Features

- Electronic combination Lock
- Mechanical, Combo, Cencon lock Options
- 8 inch wide TFT LCD
- 800 × 600 Resolution of back-lit LCD
- Support LAN (TCP/IP) communication (Dial up modem optional)
- 2,000 new bills capacity for one cassette (NZ \$20)
 - ⇒ Support up to 6,000 new bills for three cassette (Optional)
- DIP type magnetic card reader / Support IC card (EMV Level-1 Ready)
- Thermal line receipt printer Semi-Automatic paper load
- Modular design for easy maintenance
- UL 291 Business hour listed safe compliance

Functional Features

- Electronic journal with up to 2,000 transactions of capacity , up/down loading supported
- Supports English, Spanish, French, Korean and Japanese
- Detailed average history report feature
- Quick setup feature
- Advertisement feature for store promotion
- Error code description for easy to service

1.3 What is in this manual

This NH-1800CE Automated Teller Machine Manual contains all information needed for normal operational use.

This manual contains Unit Specifications, ATM Opening & Closing Procedures, Operator Functions, Customer Transactions, Error Recovery and etc.

Some of the information in this manual may differ according to the network processor to be connected.

Chapter 2. Precautions for Safety

2. Precautions for Safety

2.1 Overview

Common Precaution for Safety









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.

2.2 Description of Precaution Symbols

Symbol	Description
	<p>Electrical Shock</p> <ul style="list-style-type: none"> • 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.
	<p>High Temperature</p> <ul style="list-style-type: none"> • 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.
	<p>Be Careful when Moving</p> <ul style="list-style-type: none"> • The equipment is heavy. Make sure at least 2 people to lift or move the equipment. • Do not attempt to move the equipment alone. You may be injured by dropping the heavy equipment.
	<p>Fire Hazard</p> <ul style="list-style-type: none"> • 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.
	<p>Disassembly</p> <ul style="list-style-type: none"> • 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.
	<p>Fall down</p> <ul style="list-style-type: none"> • Do not place the equipment where the floor cannot sustain the weight of the equipment, or on slanted or unstable surface. • Equipment may fall down and cause injury or damage.

Symbol	Description
	<p>Unplug the Equipment</p> <ul style="list-style-type: none"> • 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.

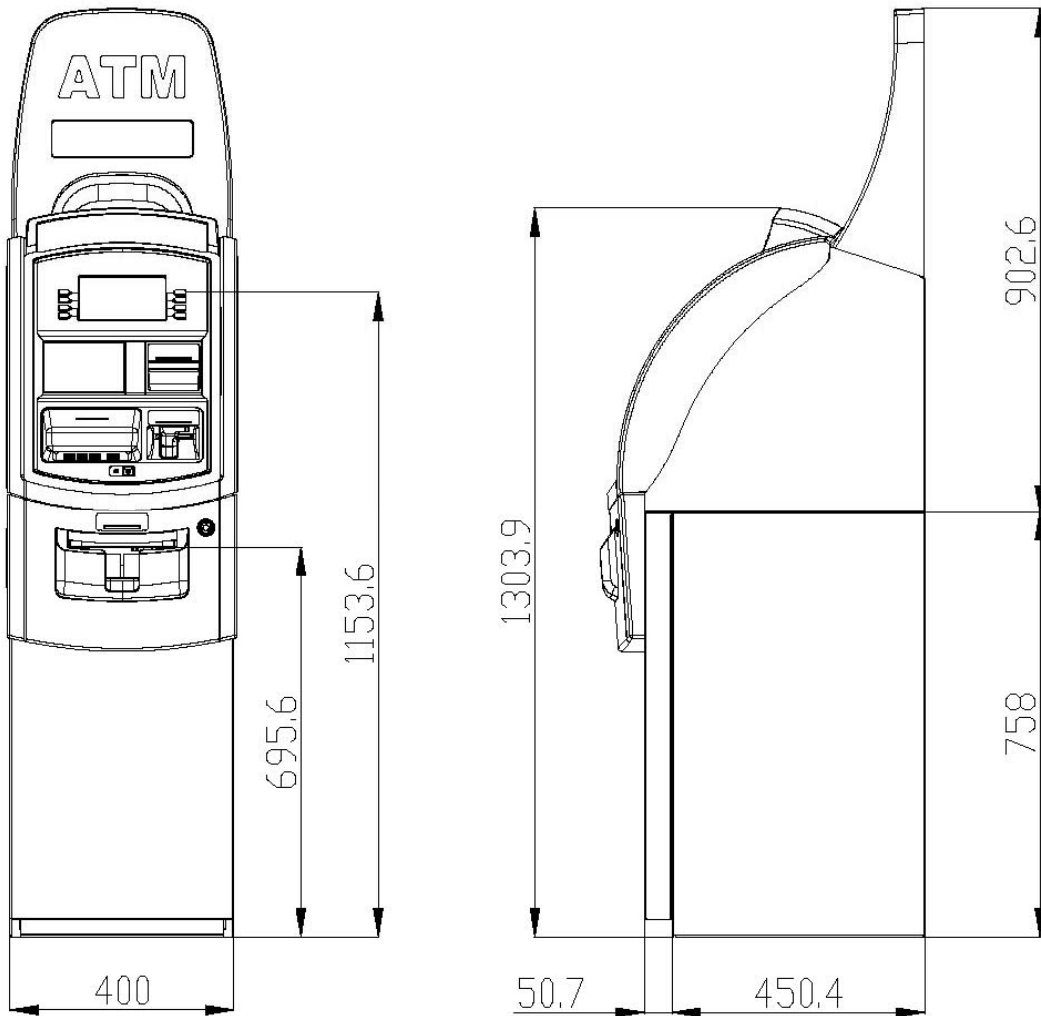
CAUTION!!

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

Chapter 3. Hardware Specifications

3. Hardware Specifications

3.1 Dimensions



Width x Length x Height : 410 x 580 x 1304 (mm)

Fig. 3.1 NH-1800CE Dimension

3.2 Component Locations



Fig. 3.2 Component Location

3.3 LCD & Customer Keypad



Fig 3.3 LCD & Customer Keypad

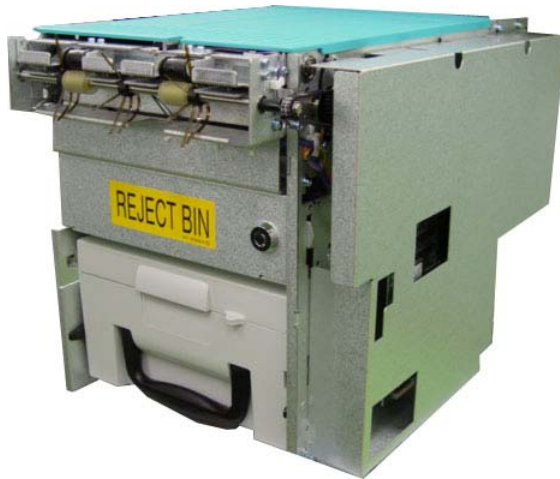
LCD

- Screen Size : 8.0 "
- Wide TFT Color
- Resolution : 800 × 600 pixels

Keypad

- 10 Alphanumeric , ◀ , ▶ , CANCEL, CLEAR, ENTER, BLANK Keypads
- 8 Function Keys
- Each Keypads has integral raised Braille symbols

3.4 Cash Dispenser Unit



1-Cassette Cash Dispenser



3-Cassette Cash Dispenser

Fig. 3.4 Cash Dispensing Unit

Cash Dispensing Unit

- Manual shutter (Tray type)
- Dispensing speed: 4 notes/second
- Support 1 cassette / up to 3 cassettes (optional)
- Capacity of 2,000 notes (Based on new bills)
- Capacity of 6,000 (Based on new bills)
- Reject bin with capacity of 200 notes
- Method of reject: note by note rejection
- Low level cassette detection
- Two notes detection function
- Supporting New Zealand Dollar and various currencies

3.5 Receipt Printer



Fig. 3.6 Receipt Printer

Receipt Printer

- 3" Thermal line printer with cutter
- 100mm/sec Printing Speed
- Semi-Automatic roll paper setting
- Support graphics / Bar Code printing
- See Appendix C : RECEIPT PAPER SEPECIFICATIONS

3.6 Magnetic Card Reader



Fig. 3.7 Magnetic Card Reader

Magnetic Card Reader

- Dip type Card Reader (ISO Track 1 & 2 Read)
- IC CARD Supporting / EMV Ready
- Readable ejection speed : 6 inches ~ 39.3 inches/second
- MTBF : 1 million passes
- See Appendix D : MAGNETIC CARD SPECIFICATIONS

☞ MTBF : Mean Time Between Failures

3.7 Main Control Board



Fig. 3.8 Main Control Board

- CPU : X-Scale PXA270 520MHz
- Memory : SDRAM (64MB), Flash Memory (64 MB) , NV-RAM : 512 KB
- Operating system : Windows CE
- Serial ports : 7 Ports
- Host Communication : LAN (TCP/IP)
- USB Ports : 2 Ports

3.8 Operating Environment

Power Requirements

100 ~240 Vac \pm 10% 3.2A 50/60Hz , 100 Watt

Power Connections

The NH-1800CE ATM must be connected to a dedicated power circuit. This circuit must consist of **LINE**, **NEUTRAL** and **GROUND** leads connected directly to the power circuit breaker panel.

This circuit cannot be shared with any other equipment.

Temperature

- In storage : 32°F - 123°F (0°C ~ 40°C)
- While operating : 40°F - 95°F (5°C ~ 35°C)

Humidity

- In storage : 10% < RH < 90%, Non-Condensed
- While operating : 25% < RH < 85%, Non-Condensed

Chapter 4. Installation

4. Installation

4.1 Installation Requirements and Necessary Tools

- Installation conditions and space

Following conditions should be met before installing equipment.

- 1) Temperature while operating should be between 40°F - 95°F
- 2) Relative humidity while operating should be between 15% < RH < 85%, Non-Condensed
- 3) Avoid locations where intense direct light is reflected off the LCD screen.
- 4) Avoid locations where strong static electricity can occur.
- 5) Avoid placing the product next to equipment that produces electromagnetic waves. It could interfere with data transfer.
- 6) The floor must allow easy wheelchair access from the front or the side.
- 7) Space required for servicing the machine should be considered before installation.

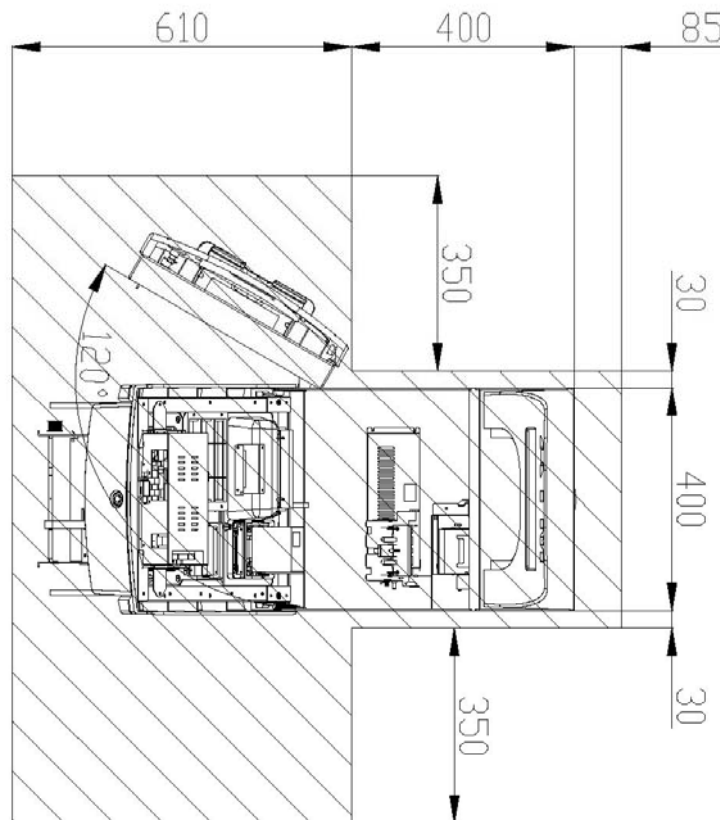


Fig. 4.1 Installation space #1 (Plane view)

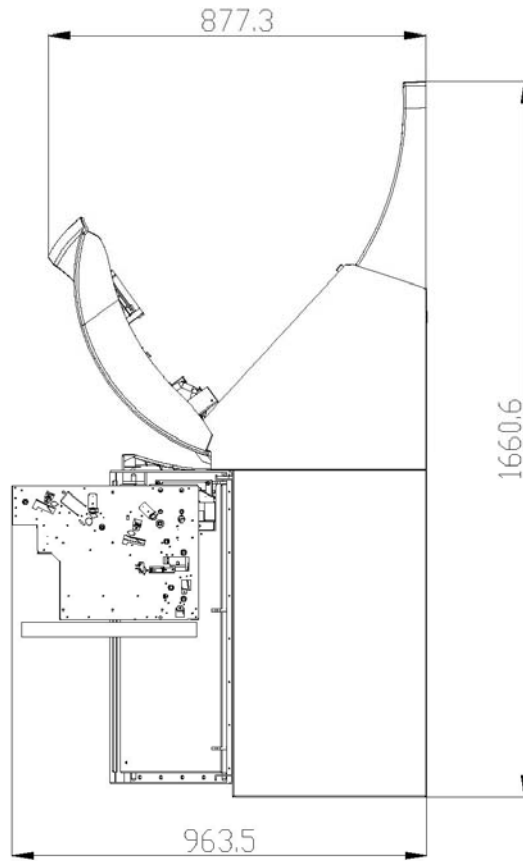


Fig. 4.2 Installation space #2 (Side view)

- Tools required for installation
In order to move the machine and place it in a proper location, you should seek the help of professionals trained in moving heavy equipment.

Following tools are needed to install the machine.

- Wire cutter
- Lifter
- Screw driver (Flat, Phillips)
- Wrench (Spanner)
- Leveling tool

4.2 Unpacking

- 1) Unpack the machine on top of the palette.
- 2) Cut the straps that are fastened around the box with a knife. (refer to Fig. 4.3)
(Be careful when cutting the straps.)
- 3) Use an appropriate tool to remove the nails from the palette. (refer to Fig. 4.4)
- 4) Remove the lid, then box from the top. Do not discard the packaging materials until you have verified any shipping damage claim. Contact your distributor immediately if you see any shipping damage.
Store the box in a safe place to re-use or discard of appropriately.
- 5) Verify the contents carefully with the packing list to be sure all items listed are included.
Notify your distributor of any shortages.
- 6) If only the palette needs to be removed, lift the whole machine from the bottom and set it aside.

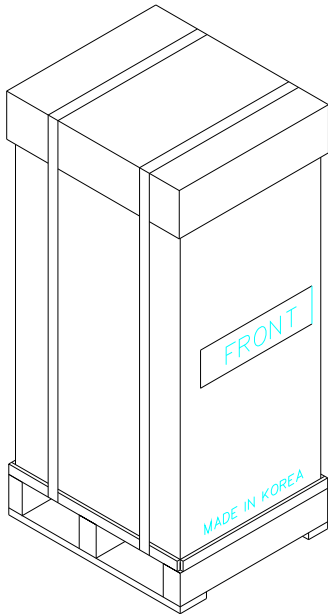


Fig. 4.3

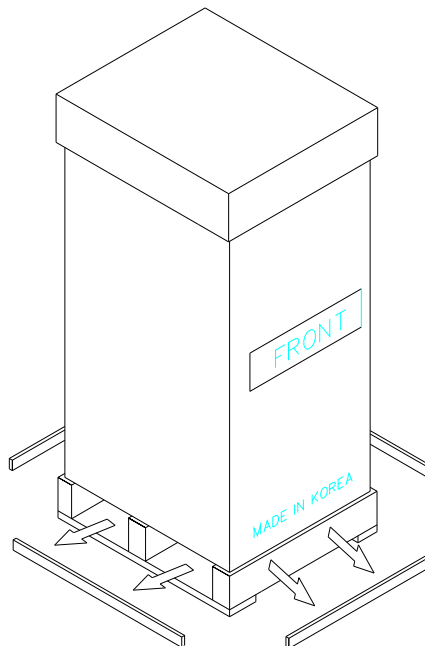


Fig. 4.4

4.3 Physical Installation

To install the NH-1800CE ATM, perform the following steps.

- 1) Place the “Anchor bolts locate sheet” at the place where the machine is to be installed. (refer to Fig. 4.5)
- 2) Place the system on a flat surface, the system has a tendency to tip over if the surface is over 10 degrees. (refer to Fig 4.6) Be careful when opening the top or bottom of the machine s it will be off balance
- 3) Place the Anchor nuts into the ground according to the anchor bolts locate sheet. (4 places)
- 4) Place the NH-1800CE on top of the sheet.
- 5) Open the Security cover with the key provided.
- 6) Using the supplied combination (factory preset at 50-25-50) open the Security Door. This combination should be changed as soon as possible. Refer to Appendix B for instructions on changing the lock combination.
- 7) After the anchor nuts are in place according to the anchor holes on the bottom of the NH-1800CE, tighten the anchor bolts tightly.

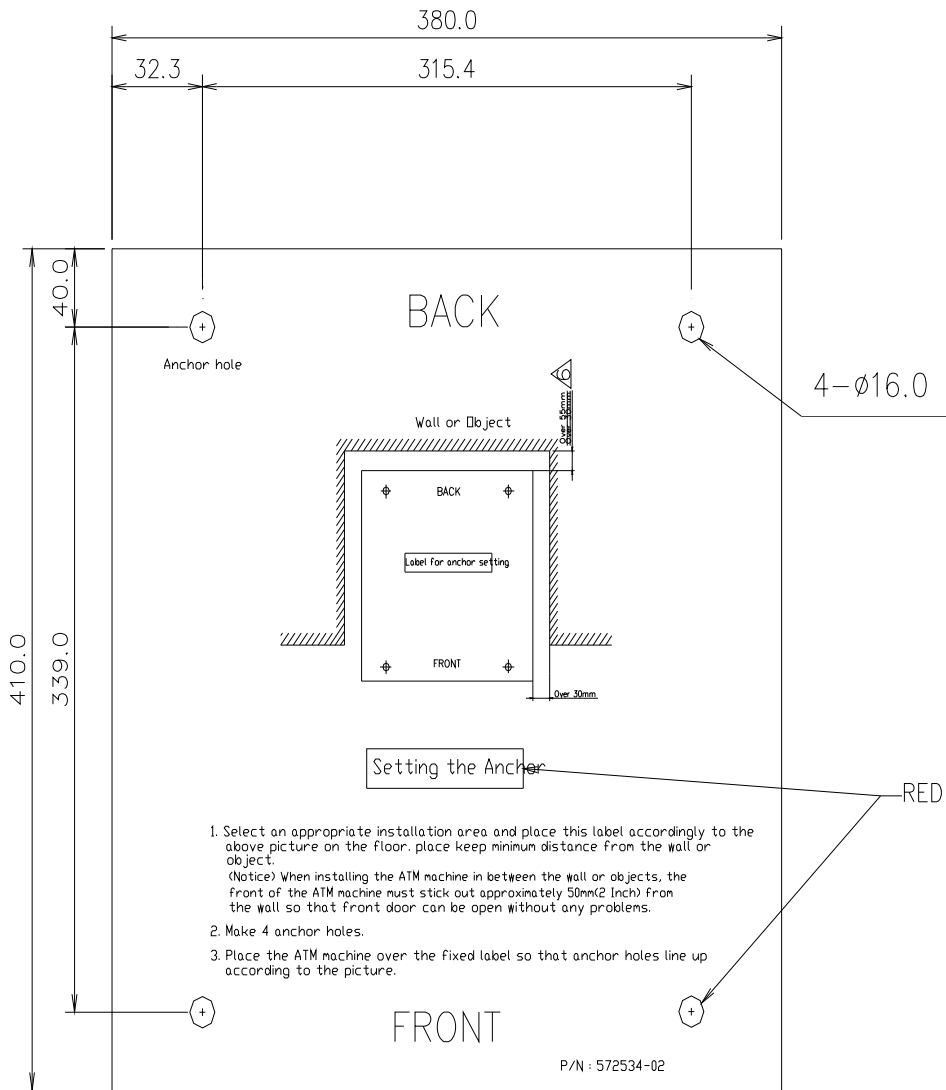


Fig. 4.5 Anchor diagram of NH-1800CE ATM

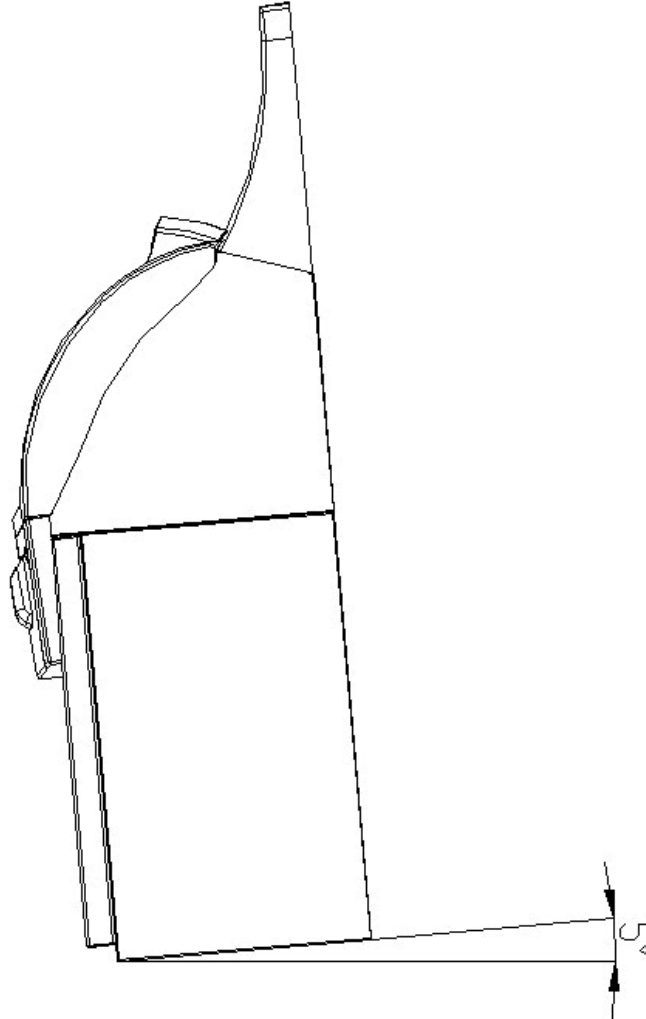


Fig. 4.6 Making a surface level of ATM

4.4 Hardware Installation

- 1) Verify the power voltage (110/220V) to be used and set the appropriate voltage on the power supply.
- 2) Verify that the telephone line to be used for the ATM is in proper working order. Hyosung recommends the use of shielded phone line in locations with close proximity to other appliances.
- 3) Open the security door and remove any shipping materials and note any warning or installation instructions.
- 4) Remove the screw, which is set to hold the Cash Dispensing Unit platform in place.
- 5) Remove the cash cassette from the box, fill the cassette with the appropriate amount of notes, and place it in the Cash Dispensing Unit carefully. Place the appropriate denomination label on the front of the cassette.
- 6) Before closing the vault, thoroughly test the combination lock by locking and unlocking the lock several times. It is much easier to diagnose potential lock problems before shutting the door
- 7) Open the top of the ATM. Place the receipt paper in the Receipt Printer. The paper prints only on one side (shiny side) always check the roll when you install paper. Place the roll so that the coated side (shiny side) will be facing up.
- 8) Connect the Power cable and telephone cable to the appropriate outlets on the wall. (verify once again if the power voltage is 110V or 220V)
- 9) Turn the power on and verify if all systems are operational. If any part of the system is not operational then an error code will be displayed. Verify with the Error Code and follow the appropriate steps. If the error is not corrected please contact your local distributor. Set all the system parameters. For more detailed information refer to Chapter 6 and Chapter 7.

Chapter 5. Operating Instructions

5. Operating Instructions

5.1 Opening and Closing the Door

5.1.1 How to open the electronic lock



- 1) Insert the key into the lock and turn it clockwise to open the front bezel.



- 2) The default combination for Electronic Lock is **1-2-3-4-5-6**. Enter this sequence on the Electronic Lock keypad.



- 3) Turn the Vault Door handle counterclockwise. The Vault Door will open.

5.1.2 Opening and Closing the Front Panel



1) Insert the Front Panel key and turn it clockwise.



2) Please pull the Front Panel outward.

3) Take the reverse order of above description to close the Front panel.

A. Optional : Dial Lock

A-1 Opening and Closing the Security Cover and Door



- 1) Turn the Security Cover key clockwise to open the Security Cover.



- 2) To unlock the Combination Lock, please refer to A-2 and A-3.



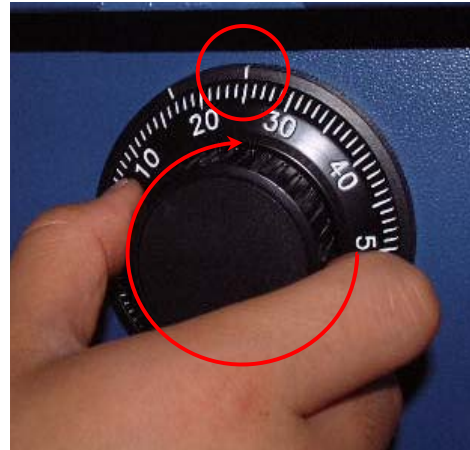
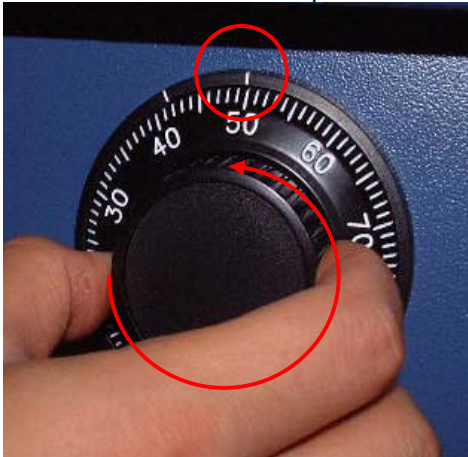
- 3) Turn the Security Door Handle counterclockwise, then pull the Security Door to open it.

- 4) Take the reverse order of above description to close the Security cover and door.

A-2 How to open the mechanical combination lock

Make sure that this lock would be set 50-25-50 as factory default setting.

- 1) Turn to the counterclockwise for more than four times and set to "50."
- 2) Turn to the clockwise and stop at "25" at the third times.



- 3) Turn to the counterclockwise and stop at "50" at the second times.
- 4) Turn to the clockwise until the dial does not move any more.



Note: The center scale mark is used to open the safe unit

- 5) The safe door will open when turning the handle to counterclockwise.

A-3 How to set the new password

For example, let's assume that you would like to set the following number (10-50-70)

- 1) Open the safe door as described in the above.
- 2) To close the mechanical lock, turn the handle to clockwise with the door opening
- 3) Turn to the counterclockwise for more than four times and set to "50" at left scale indicator as shown in the Fig.5.1.
- 4) Turn to the clockwise and stop at "25" at the third time as shown in the Fig.5.2.
- 5) Turn to the counterclockwise and stop at "50" at the second times as shown in the Fig.5.3.

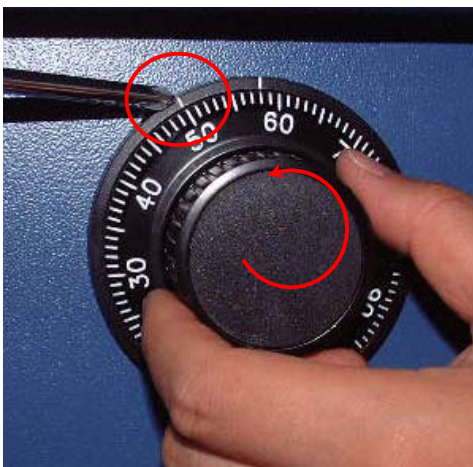


Fig.5.1

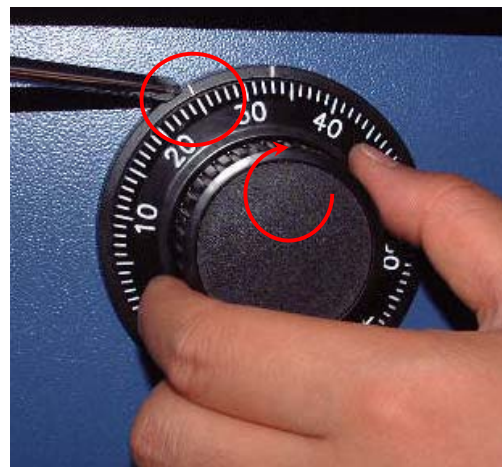


Fig.5.2



Fig.5.3

Note: The left scale mark is used to change the password.

- 6) Push the change bar completely until it is held by the dial change home (Fig.5. 4) inside the safe door and turn to the clockwise by 90 degrees (Fig.5.5).

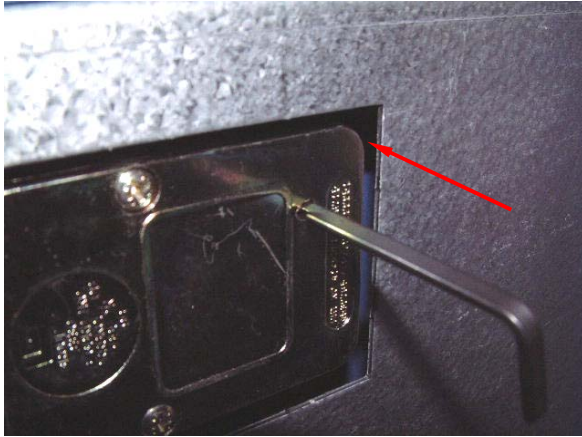


Fig.5.4

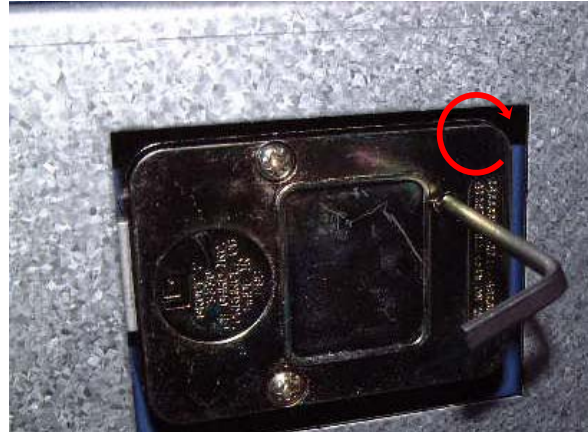


Fig.5.5

- 7) Turn to the counterclockwise more than four times and position at left scale indicator to "10" (target number to change).
- 8) Turn to the clockwise for three times and position the scale to "50" (target number to change).
- 9) Turn to the counterclockwise for two times and position the scale to "70" (target number to change).

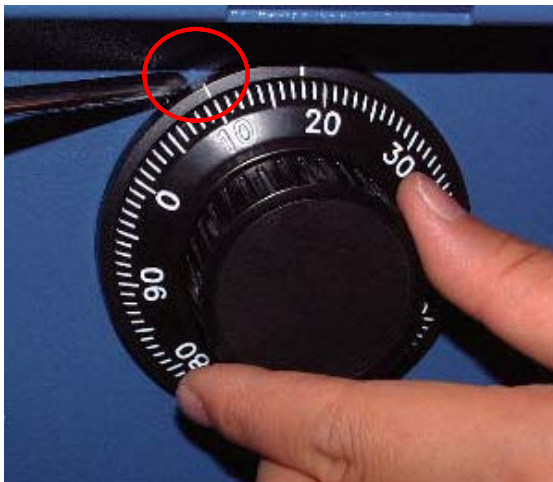


Fig.5.6

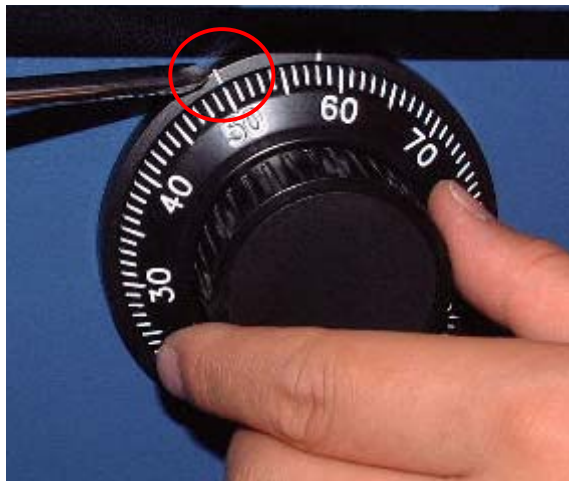


Fig.5.7



Fig.5.8

Note: Do not use number 25 – 35 as the last password number.

10) When password setting is completed, turn the change bar counterclockwise and remove it from the safe as shown in the Fig.5.9.



Fig.5.9

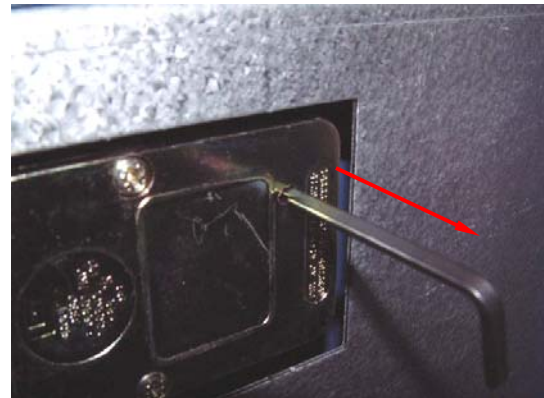


Fig.5.10

- 11) When password setting is completed, try to turn the dial more than a couple of times while the door is open to see if the door is opened or not. (Make sure to run the open/close test for at least two or three times.)
- 12) When all setting is completed, inform the password to the person in charge while paying attention to password disclosure or lost.

Note: Special attention must be paid and lost dial number cannot be restored.

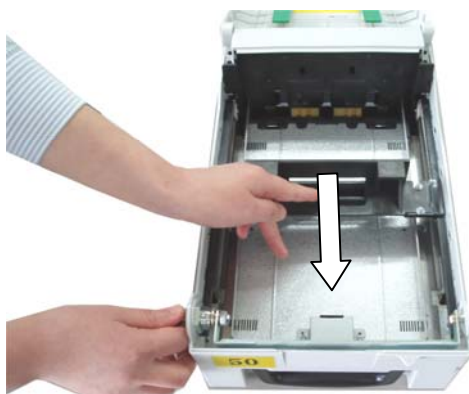
5.2 Replenishing the Cash Cassette



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



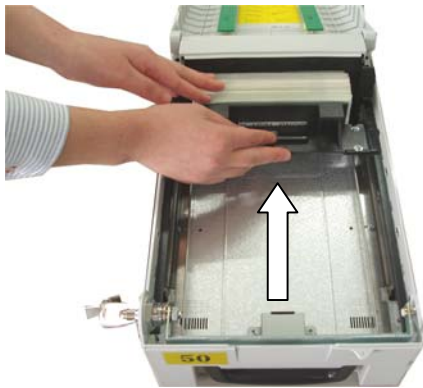
- 2) Place the cash cassette on a flat level platform and turn the cassette key clockwise to unlock the cassette cover. Then lift the cassette cover.



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



4) Replenish the cassette (Take note as below)

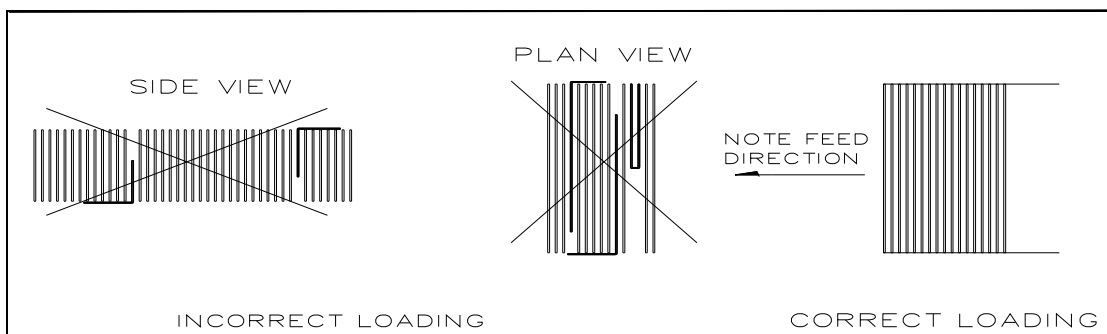


5) Unlock the cash plate by pulling it again and move it smoothly.

[Precaution!] Be careful not to hurt your hand when cash plate is released.

NOTE :

- 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.





- 6) Close the cassette cover and turn the cassette key counter clock-wise until it is locked. Remove the key when it is locked.



- 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.

<Replenishing the cash cassette>

5.3 Emptying the Reject Bin

Emptying Reject box in Cash Dispenser



1) Insert the reject box key, turn it clockwise.



2) Open the lid in reject box.



3) Take bills in reject box and turn the key counter clockwise to close the box lid.

<Emptying the reject box>

5.4 How to Clear Jam

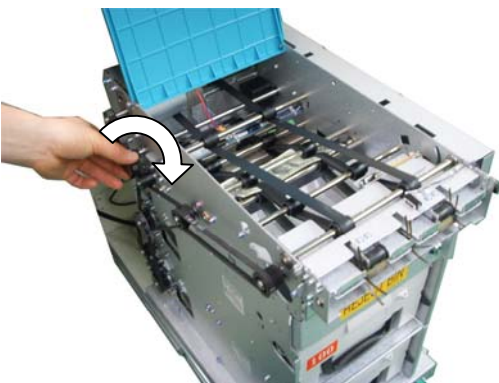
Cash Dispenser



- 1) Pull the rail of CDU outward while pressing the white button on the CDU.



- 2) Lift up the upper cover of CDU.



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



4) Take out the jammed note carefully.



5) Remove the cash cassettes.



6) Remove the jammed note inside CDU body carefully.

< Removing note jam in cash dispenser >

5.5 Loading the Receipt Paper



1) Open the Front Panel with key and pull this outward completely with hands. (Please see the Chapter 5.1.2)

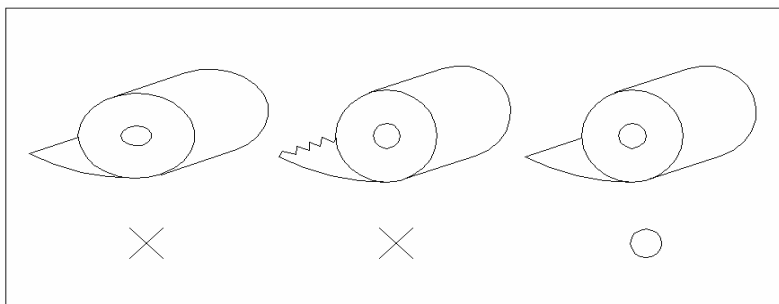
2) Prepare the new paper roll. Please see the NOTE described below



3) Remove the green paper holder by carefully pulling it off and add the receipt paper into the spindle. And then insert the green paper holder tightly again to fix it.

NOTE:

- 1. Make sure the roll is in its proper roll form. (A deformed roll may cause jamming problems)
- 2. When replacing the new roll, make sure the end of the roll paper has a clean cut. (See the below figure.)





4) The shiny side of the paper should be faced up to be printed properly and the metallic tension guide should be surrounded with paper to reduce the tension during feeding



5) Insert the leading edge of paper into the loading guide of the receipt printer slowly. When the machine is initialized, the paper is going to start feeding

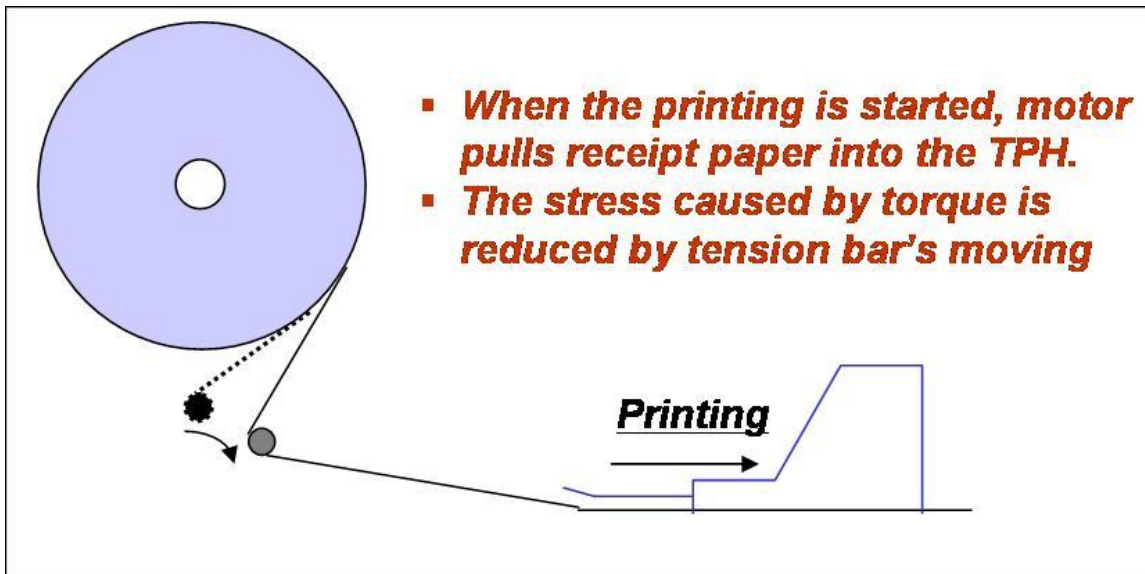
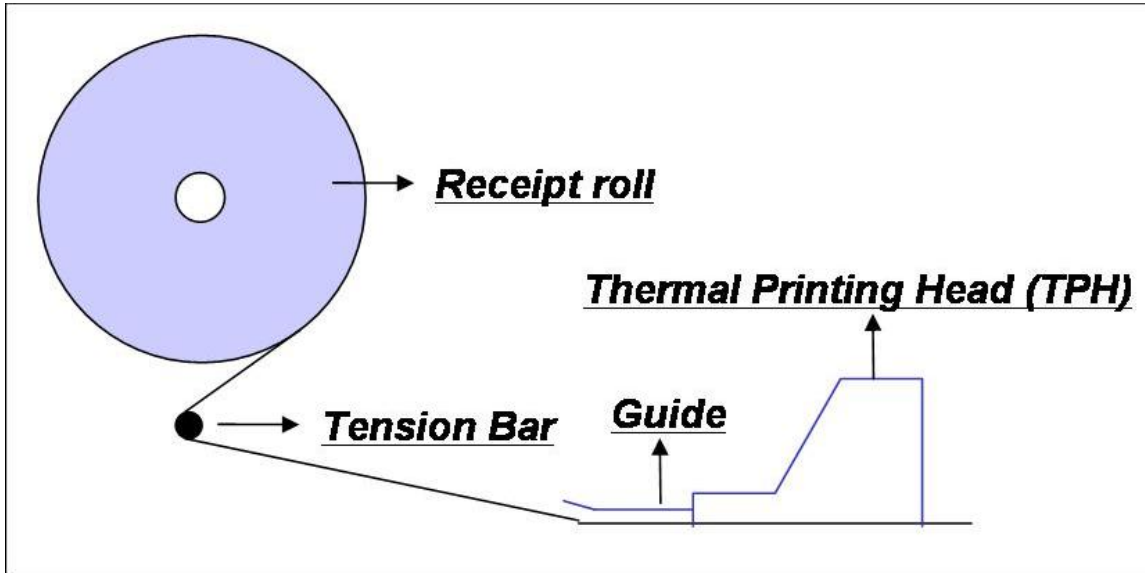


6) If the paper does not feed at all during initializing, make sure that paper has a CLEAN CUT at the end and the green lever behind the transport path is on its right place (It must not be lifted up).



7) When finished loading paper, close the Front Panel and remove the key.

NOTE: THE BASIC MECHANISM OF RECEIPT PRINTER



5.6 How to Clear a Receipt Jam



- 1) Open the Front Panel with key and pull this outward completely with hands. To remove a jammed paper inside transport path, press the green lever down to release the lower roller assembly.



- 2) To take out a jammed paper in front of transport path, lift up the transparent window guide and remove the jamming receipt carefully.



- 3) After finishing clearing the receipt, load the receipt paper properly. Please make sure to return the green lever to its right place one more time before closing the Front Panel. When finished loading paper, close the Front Panel and remove the key.

6. Operator Function

6.1 PASSWORD FOR ENTERING SUPERVISOR MODE

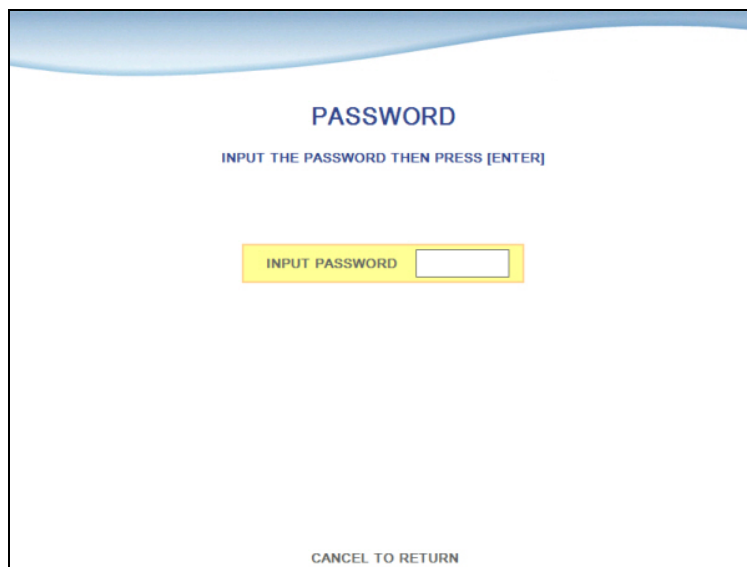


- Function Key Location on ATM -

To enter Supervisor mode press the ENTER, CLEAR, CANCEL, 1, 2 and 3 keys in order. The default password is "555555"(6 digits). The default password is changeable in Supervisor mode. After entering the correct password of 4~6 digits, press <Enter> key in order to enter Supervisor main menu. Please press <Clear> key to erase the entered number and press <Cancel> key to go to in-service-mode.

Depending on authority, there are three kinds of default password like below table.

Authority	Default Password
OPERATOR	111111 (6 digits)
SERVICE	222222 (6 digits)
MASTER	555555 (6 digits)



Please make sure that default password should be changed to different password for your security as soon as this machine is installed at field site.

•Authorities for each Mode

No	Working Management Function						CE Author		
	Main	Sub1	Sub2	Sub3	Sub4	Sub5	M	S	
1	REPLENISH	TOTAL	DAY TOTAL	-	-		○	○	
			CASSETTE TOTAL	-	-		○	○	
			TRIAL DAY TOTAL	-	-		○	○	
			TRIAL CASSETTE TOTAL	-	-		○	○	
		ADD CASH	ADD CASSETTE1	-	-		○	○	
			ADD CASSETTE2	-	-		○	○	
			ADD CASSETTE3	-	-		○	○	
			ADD CASSETTE4	-	-		○	○	
PRINT CASH	-	-		○	○				
2	CONFIGURE	TELEPHONE NUMBER	HOST PHONE #1	-		○	○		
			HOST PHONE #2	-		○	○		
		HEALTHY CHECK MESSAGE	HOST SEND	-		○	○		
			MESSAGE SEND INTERVAL	-		○	○		
		REMOTE MONITOR	RMS EN/DISABLE	RMS		○	○		
				PORT(TCP/IP)		○	○		
			RMS Status Send En/Disable	RMS Status Send En/Disable		○	○		
				URL En/Disable (TCP/IP)		○	○		
				RMS PHONE#1 (DIAL-UP)		○	○		
				RMS PHONE#2 (DIAL-UP)		○	○		
				RMS INTERVAL		○	○		
				RMS Address (TCP/IP)	RMS IP RMS PORT	○	○		
		PASSWORD	-		○	○			
		TERMINAL ID	-		○	X			
		ROUTING ID	-		○	X			
		SERIAL NUMBER	-		○	X			
		HOST ADDRESS Setup (TCP/IP)	HOST ADDRESS	IP ADDRESS#1		○	○		
				PORT#1		○	○		
			USE URL En/Disable	IP ADDRESS#2		○	○		
				PORT#2		○	○		
		TRANSACTION SETUP	DISPENSE LIMIT	-	-		○	○	
			LOW CURRENCY CHECK	-	-		○	○	
			FAST CASH	LB0, LB1, LB2	-	-		○	○
				RB0, RB1, RB2	-	-		○	○
			SET DENOMINATION	1ST CASSETTE CURRENCY	-	-		○	X
		2ST CASSETTE CURRENCY		-	-		○	X	
		3ST CASSETTE CURRENCY		-	-		○	X	

No	Working Management Function						CE Author					
	Main	Sub1	Sub2	Sub3	Sub4	Sub5	M	S				
				4ST CASSETTE CURRENCY	-		o	X				
				APPLY			o	X				
		CUSTOMER SETUP	CHANGE MESSAGE	RECEIPT HEADER & TAIL	HEADER1		o	o				
						HEADER2			o	o		
						TAIL			o	o		
						RECEIPT ADDRESS & PHONE NUMBER	ADDRESS1		o	o		
							ADDRESS2		o	o		
							ADDRESS3		o	o		
					PHONE NUMBER	PHONE NUMBER		o	o			
			SURCHARGE MODE		SURCHARGE MODE	-		o	o			
							SURCHARGE AMOUNT	-		o	o	
							SURCHARGE OWNER	-		o	o	
			BIN LIST		ADD	-		o	o			
							EDIT	-		o	o	
						PREV	-		o	o		
						DELETE	-		o	o		
						DELETE ALL	-		o	o		
						NEXT	-		o	o		
		ADVERSITEMENT		TIMER			o	o				
						SCREEN#1	DISABLE/ENABLE		o	o		
						SCREEN#2	DISABLE/ENABLE		o	o		
						SCREEN#3	DISABLE/ENABLE		o	o		
						SCREEN#4	DISABLE/ENABLE		o	o		
						SCREEN#5	DISABLE/ENABLE		o	o		
		COUPON		SCREEN#6	DISABLE/ENABLE		o	o				
						COUPON#1	DISABLE/ENABLE		o	o		
						COUPON#2	DISABLE/ENABLE		o	o		
						COUPON#3	DISABLE/ENABLE		o	o		
						COUPON#4	DISABLE/ENABLE		o	o		
						COUPON#5	DISABLE/ENABLE		o	o		
		SELECT HOST	COMMUNICATION		COUPON#6	DISABLE/ENABLE		o	o			
							COMMUNICATION	DIALUP		o	X	
								TCP/IP		o	X	
							MESSAGE TYPE	STANDARD1		o	X	
									STANDARD2		o	X
									STANDARD3		o	X
						EPS			o	X		
				VISA Framed Control Option		GENERAL		o	X			
								EOT OPTIONAL		o	X	
								NO EOT REQUIRED		o	X	
				TCPIP TYPE(TCP/IP)		NO ENQ REQUIRED		o	X			
								VISA FRAMED		o	X	
							STANDARD		o	X		
							ACK CONTROLLED		o	X		
							SSL OPTION		o	X		
							STATUS MONITORING		o	X		

No	Working Management Function						CE Author	
	Main	Sub1	Sub2	Sub3	Sub4	Sub5	M	S
		SYSTEM SETUP	OPTIONAL SETUP	REVERSAL RETRY COUNT	COMMUNICATION HEADER		○	X
					COMMUNICATION ID		○	X
					CRC OPTION		○	X
				YEAR		○	○	
				MONTH		○	○	
				DAY		○	○	
				HOUR		○	○	
				MINUTE		○	○	
				MOD10	-	○	X	
				OPERATOR PASSWORD	-	○	○	
			MASTER PASSWORD	-	○	X		
			SERVICE PASSWORD	-	○	○		
			SPEAKER VOLUME	UP	○	○		
				DOWN	○	○		
			MODEM SETUP (DIALUP)	INITIAL STRING	○	○		
			MODEM TEST (DIALUP)		○	○		
			ATM IP SETUP (TCPIP)	Static IP	IP ADDRESS	○	○	
					GATE WAY	○	○	
					SUBNET MASK	○	○	
					DNS	○	○	
	ATM DHCP En/Disable	○	○					
3	JOURNAL	PRINT JOURNAL	-	-	○	○		
		LAST X PRINT	-	-	○	○		
		VIEW JOURNAL	PREV	-	-	○	○	
			NEXT	-	-	○	○	
			PREV 50	-	-	○	○	
			NEXT 50	-	-	○	○	
			MOVE START			○	○	
			MOVE LAST			○	○	
			PRINT THIS			○	○	
		SEARCH JOURNAL			○	○		
CLEAR JOURNAL			○	X				
4	DIAGNOSTICS			-	-	○	○	
5	REPORT	SW VERSION	-	-	-	○	○	
		PRINT ALL SETUP	-	-	-	○	○	
6	RCOPY	SW UPDATE	YES	-	-	○	○	
			NO					
		BACKUP JOURNAL COPY TO USB	-	-	-	○	○	
		BACKUP LOG COPY TO USB				○	○	
		BACKUP NVRAM COPY TO USB				○	○	
RESTORE NVRAM COPY FROM USB	-	-	-	○	○			

No	Working Management Function						CE Author			
	Main	Sub1	Sub2	Sub3	Sub4	Sub5	M	S		
7	REBOOT	YES	-	-	-		<input type="radio"/>	<input type="radio"/>		
		NO								
8	RESET ALL	-	-	-	-		<input type="radio"/>	<input type="radio"/>		
9	RESET	-	-	-	-		<input type="radio"/>	<input type="radio"/>		
10	CLEAR NVRAM	CLEAR ALL	YES			-		<input type="radio"/>	<input type="checkbox"/>	
			NO					<input type="radio"/>	<input type="checkbox"/>	
		CLEAR SETTING	YES						<input type="radio"/>	<input type="checkbox"/>
			NO						<input type="radio"/>	<input type="checkbox"/>
		CLEAR JOURNAL	YES						<input type="radio"/>	<input type="checkbox"/>
			NO						<input type="radio"/>	<input type="checkbox"/>
		CLEAR TRANS. SEQUENCE NUMBER	YES						<input type="radio"/>	<input type="checkbox"/>
			NO						<input type="radio"/>	<input type="checkbox"/>
CLEAR LOG	YES						<input type="radio"/>	<input type="checkbox"/>		
	NO						<input type="radio"/>	<input type="checkbox"/>		
11	INSERVICE	-	-	-	-		<input type="radio"/>	<input type="radio"/>		

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6.2 SUPERVISOR MENU

The following screen below is the main screen of Supervisor mode.

Supervisor mode in this machine is largely composed of ATM Status and Function.

A. ATM Status

- 1) Machine name,
- 2) Country Code
- 3) Door Status
- 4) Line Type (Dial-up , TCP/IP)
- 5) Message Format
- 6) Error code
- 7) 1st Cassette : Remaining notes(Denomination)
e.g) if 1000 notes of \$20, 1000(20)
- 8) 2nd Cassette : Remaining notes(Denomination)
- 9) 3rd Cassette : Remaining notes(Denomination)
- 10) 4th Cassette : Remaining notes(Denomination)
- 11) Cash dispenser status(CDU)
- 12) Card reader status(MCU)
- 13) Receipt printer status(SCR)
- 14) Journal printer status(JPR)
- 15) The media status
- 16) The media status of 2nd Cassette
- 17) The media status of 3rd Cassette
- 18) The media status of 4th Cassette
- 19) Reject box status(rejected count)
- 20) Retracted card Count (Only for Motor driven Card Reader)
- 21) The media status of Receipt Printer
- 22) The media status of Journal Printer
- 23) Terminal ID
- 24) Routing ID
- 25) Program version
- 26) Current Date and Time

B. Functions

- 04) REPLENISH
- 05) CONFIGURE
- 06) JOURNAL
- 07) DIAGNOSTICS
- 08) REPORT
- 09) RCOPY
- 23) REBOOT
- 33) RESET ALL
- 44) RESET
- 98) CLEAR NVRAM
- 99) IN SERVICE

In order to move to the in-service mode, press '99' and then <Enter> key in sequence.

5000CE		USA		DOOR CLOSED		TCP/IP		STANDARD3	
CST1	183(\$20)	CST2	2000(\$10)	CDU	NORMAL	MCU	NORMAL		
CST3	N/A	CST4	N/A	SPR	AUTO-OFF	JPR	N/A		
MEDIA	CST1	CST2	CST3	CST4	RETRACT	MCU	SPR	JPR	
	NORMAL	NORMAL	N/A	N/A	0	0	NORMAL	N/A	
TERMINAL	NHUK0001			ROUTING ID	00000000				
AP VERSION	V01.03.00			DATE AND TIME	04/23/2008 13:53				

04	REPLENISH	SELECT NUMBER <input type="text"/>	23	REBOOT
05	CONFIGURE			
06	JOURNAL	NORMAL	33	RESET ALL
07	DIAGNOSTICS		[] - [00000(00)]	44
08	REPORT		98	CLEAR NVRAM
09	RCOPY		99	IN SERVICE

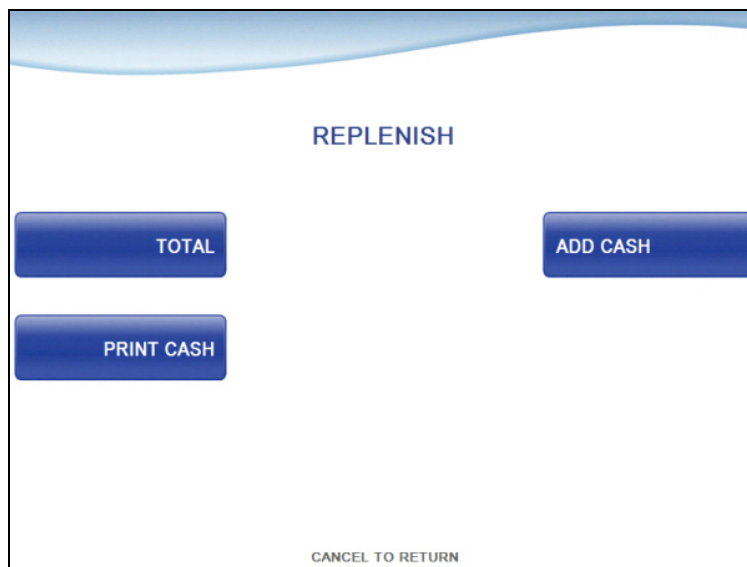
C. Field Values

CLASS	VALUE	Remarks
MACHINE KIND	1800CE	
COUNTRY CODE	New Zealand	
DOOR STATUS	DOOR OPEN DOOR CLOSED	
LINE TYPE	TCP/IP DIAL-UP	
MESSAGE FORMAT	STANDARD1 STANDARD2 STANDARD3 EPS	
ERROR CODE	[00000(00)]	
HARDWARE STATUS		
CST1	BILLS COUNT(928(\$20) N/A	
CST2	N/A	Not Available
CST3	N/A	Not Available
CST4	N/A	Not Available
CDU	NORMAL ABNORMAL ERROR	
MCU	NORMAL ABNORMAL ERROR	
SPR	NORMAL ABNORMAL ERROR	
JPR	N/A	Not Available

MEDIA STATUS		
CST1	MISSING NORMAL LOW EMPTY FULL	
CST2	N/A	Not Available
CST3	N/A	Not Available
CST4	N/A	Not Available
RETRACT	RETRACT COUNT(CDU) – (0)	
MCU	RETRACT COUNT(MCU) – (0)	
SPR	MISSING NORMAL LOW EMPTY	
JPR	N/A	Not Available

6.3 REPLENISH

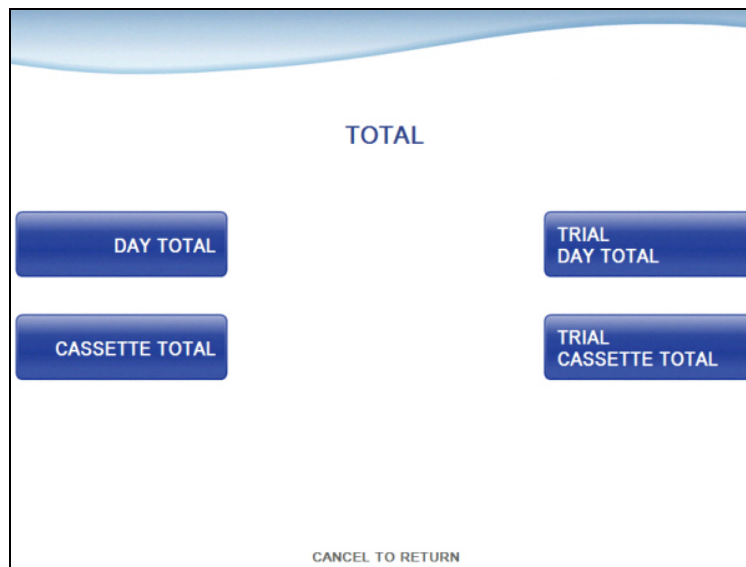
This menu contains TOTAL, ADD CASH, and PRINT CASH. Please press function key beside menu button to go to next screen. To go back to the previous screen, just press the <Cancel> key in pinpad.



6.3.1 TOTAL

This menu contains DAY TOTAL, TRIAL DAY TOTAL, CASSETTE TOTAL and TRIAL CASSETTE TOTAL. Please press function key beside menu button to operate related function. To go back to the previous screen, just press the <Cancel> key in pinpad.

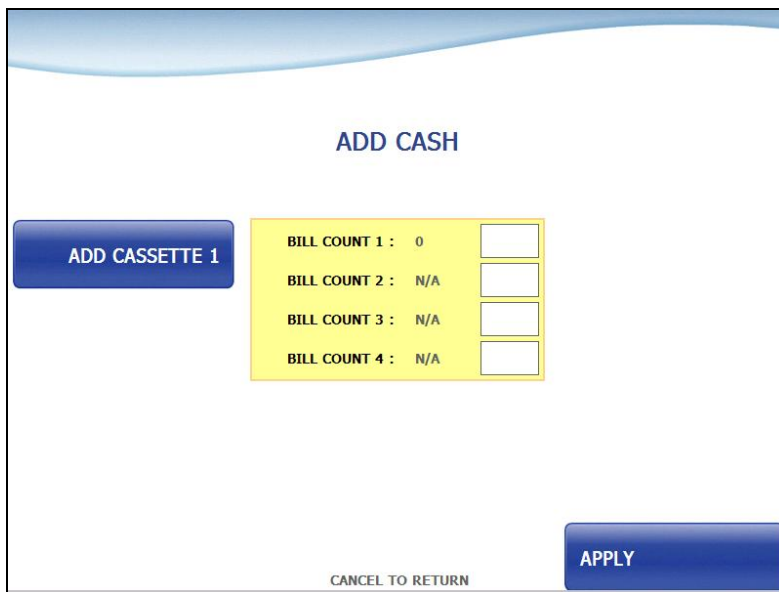
- DAY TOTAL: Clear transaction information. Do settlement with host.
- TRIAL DAY TOTAL: Not clear transaction info. Do settlement with host.
- CASSETTE TOTAL: Print the note count and clear note count.
- TRIAL CASSETTE TOTAL: Not clear note count. Just print the note count.



6.3.2 ADD CASH

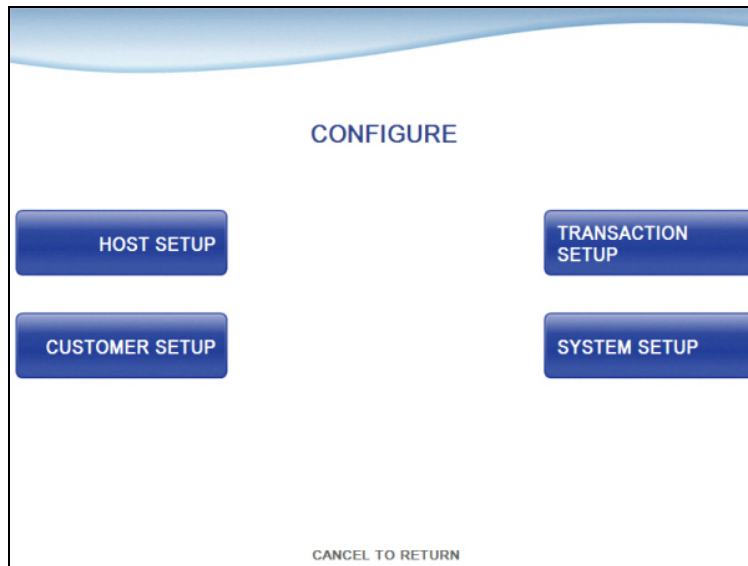
You can select the cassette to add note count by pressing function key beside menu button. (Cassette numbers are designated from top to bottom). Input the note count you want to add and press the <ENTER> key in the pinpad. If you complete the all cassettes, you have to press APPLY button to effect the value changes.

Note: The total note count you enter must not exceed the maximum note count. (Max. count : 2,000/CST)



6.4 CONFIGURE

This menu contains HOST SETUP, TRANSACTION SETUP, CUSTOMERSETUP and SYSTEM SETUP. Please press function key beside menu button to go to next screen. To go back to the previous screen, just press the <Cancel> key in pinpad.

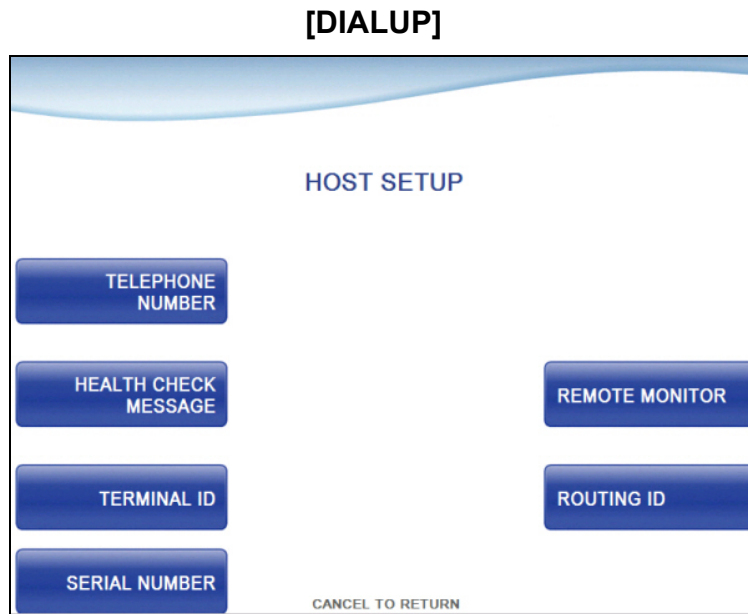


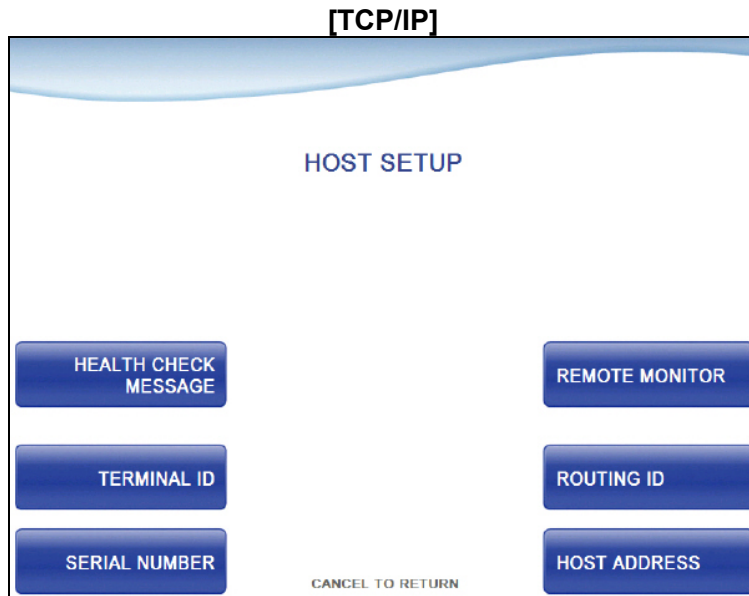
6.4.1 HOST SETUP

[DIALUP] This host setup menu contains TELEPHONE NUMBER, HEALTH CHECK MESSAGE, REMOTE MONITOR, TERMINAL ID, ROUTING ID and SERIAL NUMBER.

[TCP/IP] This host setup menu contains HEALTH CHECK MESSAGE, REMOTE MONITOR, TERMINAL ID, ROUTING ID, SERIAL NUMBER and HOST ADDRESS

Please press function key beside menu button to go to next screen. To go back to the previous screen, just press the <Cancel> key in pinpad.





6.4.1.1 TELEPHONE NUMBER (Only Dial-up)

If you press each button on this menu, phone number of host can be input. You can input character, number and special symbol up to 1~20 digits by using '<' or '>'.

This function is used to enter the primary phone number and the back-up phone number of the host. When dialing to host is failure (busy, no answer or etc), ATM switches to other phone number automatically.



6.4.1.2 HEALTH CHECK MESSAGE

If you press 'HOST SEND' button, either "ENABLE" or "DISABLE" can be selected. ATM sends its status periodically to the host when "Host Send" is set up to "Enable". The interval is dependant on "Message Send Interval".

If you press 'MESSAGE SEND INTERVAL' button, the value of SEND INTERVAL can be adjusted. (1 ~ 24). This value is saved by pressing <ENTER > button.

The screenshot shows a screen titled "HEALTH CHECK MESSAGE". It has a blue header bar. Below the header, there are three main buttons: "HOST SEND" (blue), "MESSAGE SEND INTERVAL" (blue), and a central yellow panel. The yellow panel contains "HOST SEND" with a "DISABLE" button next to it, and "SEND INTERVAL (HOUR)" with a numeric input field showing "2". At the bottom center, there is a "CANCEL TO RETURN" option.

6.4.1.3 REMOTE MONITOR

- Display which is to set the information for using Remote Management System (RMS)

- 1) RMS EN/DISABLE function is used to connect to the RMS mode to enable or to disable. The default option is "ENABLE".
- 2) RMS STATUS SEND EN/DISABLE function is used to send the status message to RMS in enable or in disable.
- 3) The RMS PASSWORD function is used to set the RMS password to connect to ATM from RMS.

[DIAL-UP]

REMOTE MONITOR

RMS EN/DISABLE	NETWORK TYPE	DIALUP	RMS STATUS SEND EN/DISABLE
	RMS	ENABLE	
	RMS STATUS SEND	DISABLE	
	RMS PASSWORD	*****	

RMS PASSWORD

CANCEL TO RETURN

[TCP/IP]

REMOTE MONITOR

RMS EN/DISABLE	NETWORK TYPE	TCP/IP	RMS STATUS SEND EN/DISABLE
	RMS	ENABLE	
	RMS STATUS SEND	DISABLE	
	RMS PASSWORD	*****	

RMS PASSWORD

CANCEL TO RETURN

6.4.1.3.1 RMS EN/DISABLE (Only TCP/IP)

- Display which is to set the RMS port for the reception on standby of the ATM.

[TCP/IP]

RMS ADDRESS

RMS IP	RMS IP	150.011.012.091	RMS PORT
	RMS PORT	9999	

CANCEL TO RETURN

6.4.1.3.2 RMS STATUS SEND EN/DISABLE

- Display which is to set the function to transfer STATUS to RMS from the ATM.

[DIAL-UP]

1) RMS STATUS SEND

- Display whether RMS STATUS SEND function is Enable or not.

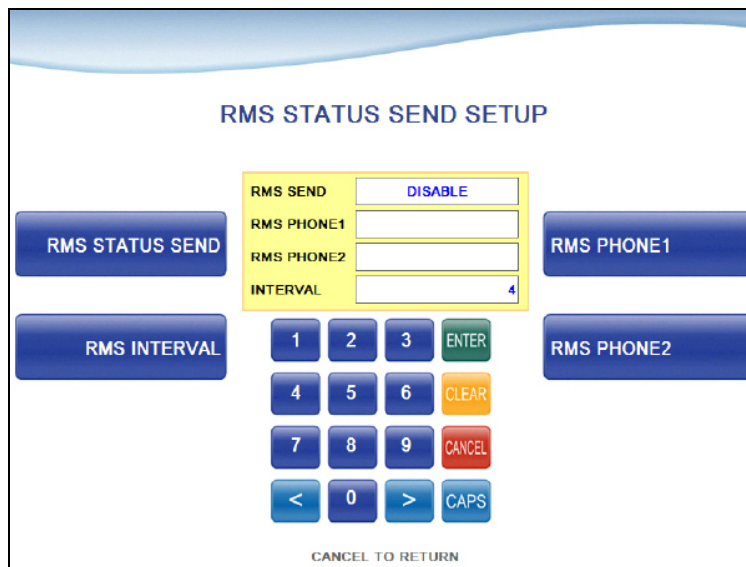
2) RMS INTERVAL

- Display "RMS STATUS SEND" cycle (unit: hours)

- Input the number from 1 to 24.

3) RMS PHONE #1, RMS PHONE #2

- Input the RMS telephone number for RMS communication. (Input the number up to 20.)



[TCP/IP]

1) RMS STATUS SEND

- Display whether RMS STATUS SEND function is Enable or not.

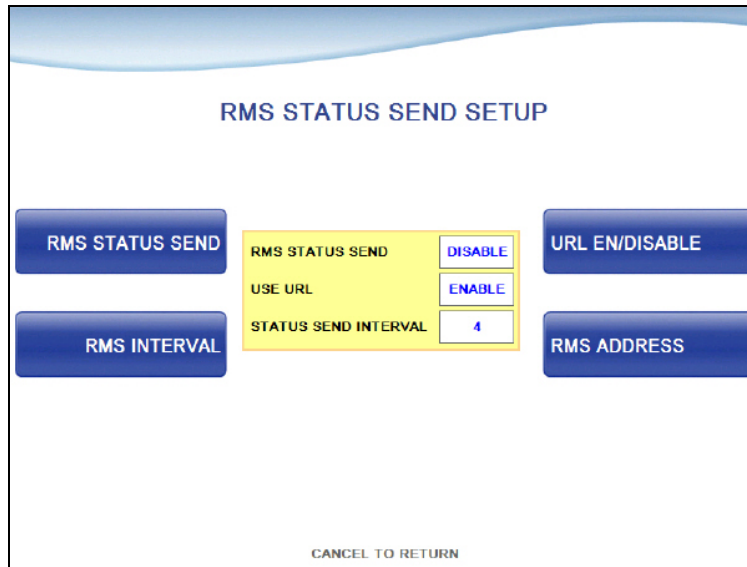
2) USE URL

- Display whether to use URL when inputting RMS ADDRESS.

3) RMS INTERVAL

- Display RMS STATUS SEND cycle (unit : time)

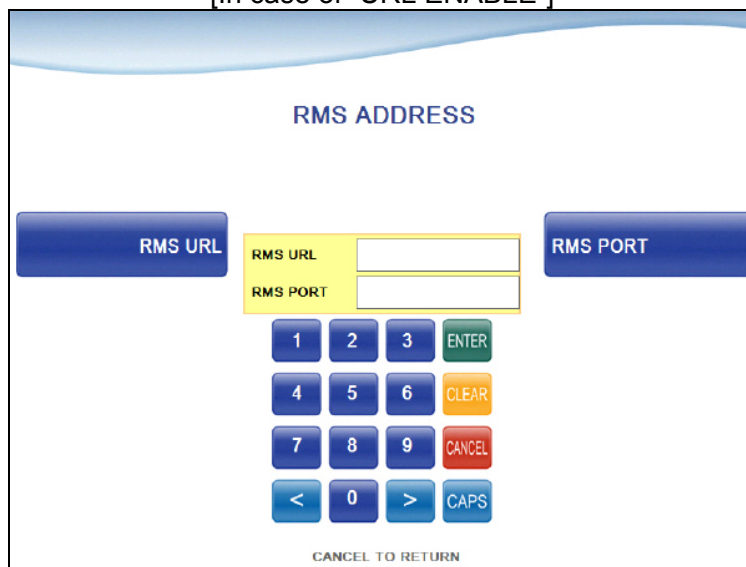
- Input the number from 1 to 24.



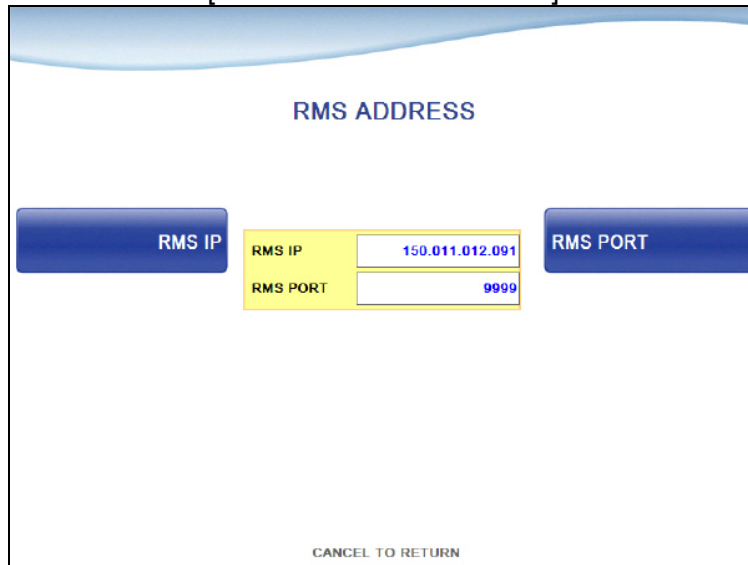
4) RMS ADDRESS

- Set RMS IP, PORT

[In case of "URL ENABLE"]



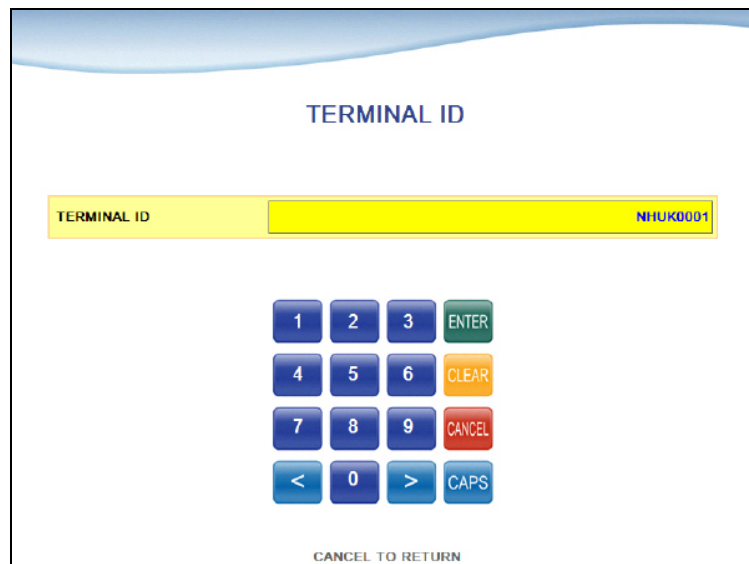
[In case of "URL DISABLE"]



6.4.1.4 TERMINAL ID

This function is used to set the Terminal ID Number of ATM.

Character, number or special symbol can be input up to 1~8(STD1, 2, EPS) or 1~15(STD3) digits by using '<' or '>'. This value is saved by pressing <ENTER> button located on the pinpad, Host will identify ATM by looking at terminal ID. Terminal ID will be included in host message and will be printed on the receipt. To go back to the previous screen, press the <Cancel> key in pinpad.



6.4.1.5 ROUTING ID

This function is used to set the Routing ID Number of ATM. Routing ID refers to the Bank ID. This field is contained to Standard 1, Standard 2 and EPS format.

Character, number or special symbol can be input up to 1~6 digits by using '<' or '>'. This value is saved by pressing<ENTER> located on the pinpad, on the other hand, To go back to the previous screen, just press the <Cancel> key in pinpad.



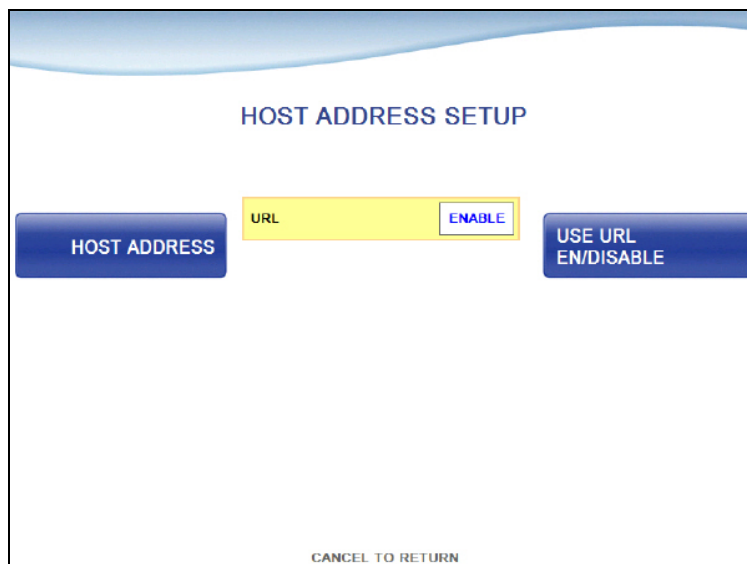
6.4.1.6 SERIAL NUMBER

This function is used to set the Machine Serial Number. The Machine Serial Number is used when RMS connects to ATM. RMS sends the Machine Serial Number to ATM and ATM compares it. If it is different, ATM disconnects impromptu. To go back to the previous screen, just press the <Cancel> key in pinpad.



6.4.1.7 HOST ADDRESS SETUP

HOST ADDRESS SETUP contains HOST IP and HOST URL EN/DISABLE. You can enter HOST IP button to enter sub menu or select one of ENALBE / DISABLE option about HOST URL in this mode.



6.4.1.7.1 HOST ADDRESS

HOST ADDRESS contains IP ADDRESS (URL) #1, PORT NUMBER #1, IP ADDRESS (URL) #2, and PORT NUMBER #2. Number can be input. This value is saved by pressing <ENTER> key, on the other hand to go back to the previous screen, just press the <Cancel> key in pinpad.

[In case of "HOST URL ENABLE"]

HOST ADDRESS

URL #1	<input type="text"/>
PORT NUMBER #1	<input type="text"/>
URL #2	<input type="text"/>
PORT NUMBER #2	<input type="text"/>

URL #1 1 2 3 ENTER URL #2

4 5 6 CLEAR

PORT NUMBER #1 7 8 9 CANCEL PORT NUMBER #2

< 0 > CAPS

CANCEL TO RETURN

[In case of "HOST URL DISABLE"]

HOST ADDRESS

IP ADDRESS #1	<input type="text" value="150.011.005.195"/>
PORT NUMBER #1	<input type="text" value="31702"/>
IP ADDRESS #2	<input type="text"/>
PORT NUMBER #2	<input type="text" value="0"/>

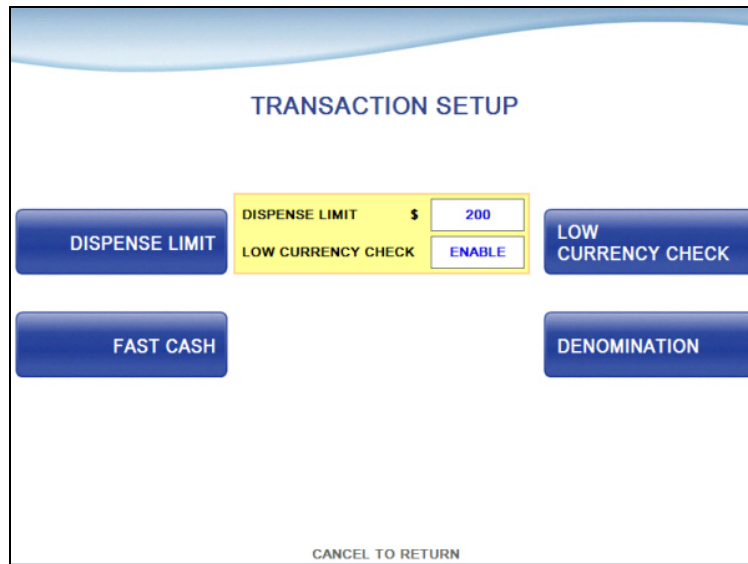
IP ADDRESS #1 IP ADDRESS #2

PORT NUMBER #1 PORT NUMBER #2

CANCEL TO RETURN

6.4.2 TRANSACTION SETUP

This host setup menu contains DISPENSE LIMIT, LOW CURRENCY CHECK, and DENOMINATION. You can enter each sub menu by pressing each button. To go back to the previous screen, just press the <Cancel> key in pinpad.



- 1) DISPENSE LIMIT function is used to set the maximum amount of notes that can be dispensed per transaction. The amount must be a multiple of denomination. And the maximum dispensed count a transaction must not be over a total of 40 notes.
- 2) LOW CURRENCY CHECK function is used to set the detection of cassette low level (100 bills or less, it can be changed with depending on bill thickness and quality). If enabled, hardware will report the low condition to the software and the machine will go to "OUT OF SERVICE" mode under low note condition.

3) SET DENOMINATION function is used to set the denomination of note to be set in the cassette. Please press function key beside menu button if you want to select the cassette to set the denomination of note. Input the note value you want and press the <ENTER> key in the pinpad. If you completed the all cassette setting, you have to press APPLY button to effect the value changes.



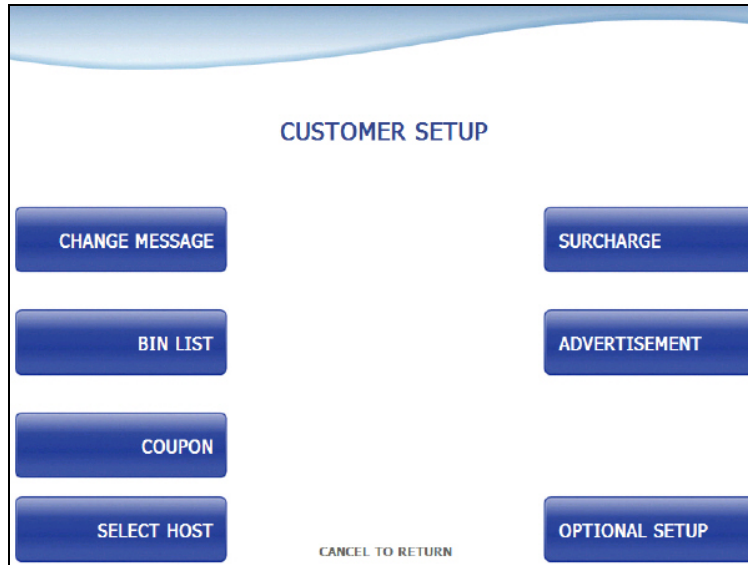
4) FAST CASH

This menu is to set the denominations (6 types) which are frequently requested by customer for the customers to withdraw the money more easily.



6.4.3 CUSTOMER SETUP

This customer setup menu contains CHANGE MESSAGE, SURCHARGE MODE, BIN LIST, ADVERTISEMENT, COUPON, SELECT HOST and OPTIONAL SETUP. Please press function key beside menu button to operate selected function. To go back to the previous screen, just press the <Cancel> key in pinpad.



Refer to figure of the Sample Receipt below for the location of the messages. The default receipt format will not include any messages.

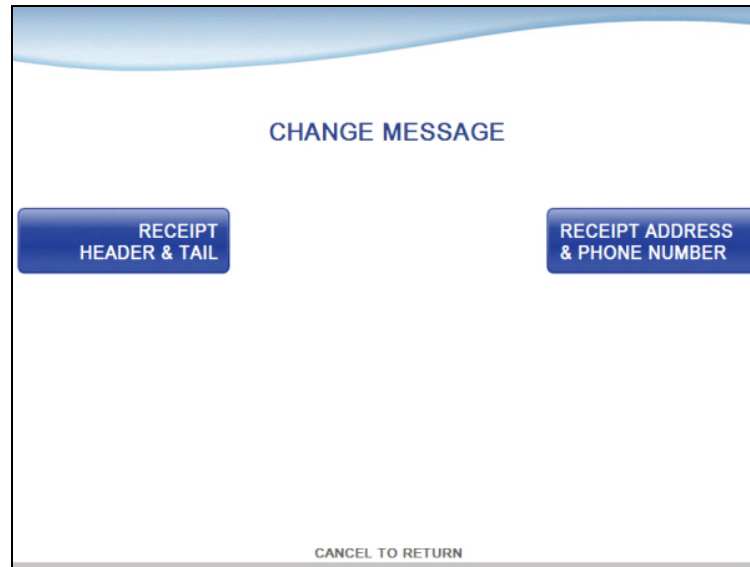
Spanish transactions will be printed in English.



-Location of Messages on Receipt-

6.4.3.1 CHANGE MESSAGE

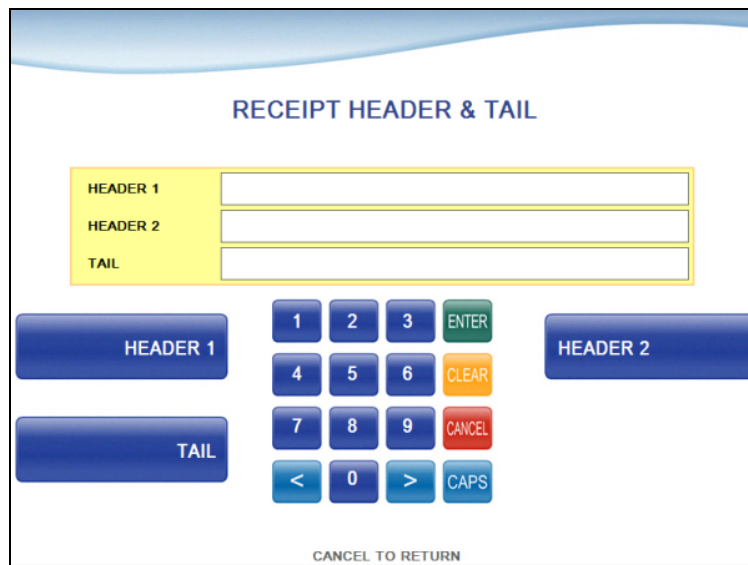
CHANGE MESSAGE menu has each of two sub menu. If you press the RECEIPT HEADER&TAIL button, the current display will be changed into the RECEIPT HEADER&TAIL. And you can set the message in the HEADER and TAIL button menu of the RECEIPT. Also, if you press the RECEIPT ADDRESS & PHONE NUMBER button, it will be changed the RECEIPT ADDRESS & PHONE NUMBER display. You can set the information about ADDRESS and PHONE NUMBER in the RECEIPT. At last, the display can go back to the previous menu by pushing the <CANCEL> key



1) RECEIPT HEADER & TAIL

RECEIPT has function of guide comment and explanation in the HEADER and TAIL. If you push the HEADER1, you can enter the message on the HEADER 1. As the same as HEADER1, you can push and insert the message on the HEADER 2. And if you press TAIL, you can enter the message on the RECEIPT TAIL. When you want to erase it on currently editing, you can push the CLEAR.

This system will be functioned with at least one more message among the three sub items. After entering the message, press ENTER key and the command can be processed. Or, you can push <CANCEL> key if you want to go back to the previous menu.



2) RECEIPT ADDRESS & PHONE NUMBER

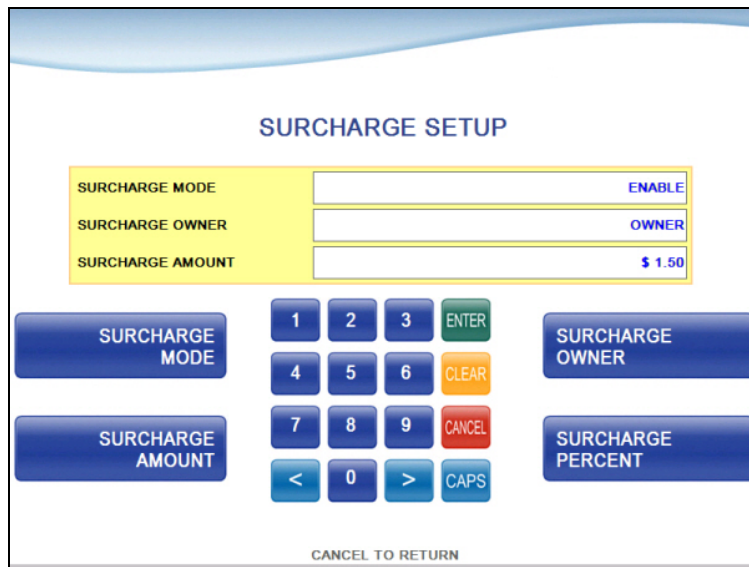
RECEIPT function includes setting the information of ADDRESS and PHONE NUMBER. You can enter the message when you push the ADDRESS 1. And in case of pushing ADDRESS 2, you can insert the message in ADDRESS 2. In the same way, you can use ADDRESS 3 and enter the data in ADDRESS 3. Next, if you push the PHONE NUMBER, PHONE NUMBER can be set. While entering the information, if you want to clear it, you can push CLEAR.

This system will be functioned with at least one more message among the three sub items. After entering the message, push <ENTER> and the command can be processed. Or, you can push <CANCEL> and then you can go back to the previous menu.

The screenshot displays a menu titled "RECEIPT ADDRESS & PHONE NUMBER". It features four input fields: ADDRESS 1, ADDRESS 2, ADDRESS 3, and PHONE NUMBER. Below these fields is a numeric keypad with buttons for digits 1-9, 0, ENTER, CLEAR, CANCEL, and CAPS. There are also buttons for ADDRESS 1, ADDRESS 2, ADDRESS 3, and PHONE NUMBER. At the bottom, it says "CANCEL TO RETURN".

6.4.3.2 SURCHARGE MODE

The SURCHARGE MODE contains the enable/disable of the surcharge warning screen and setting the surcharge amount and surcharge owner. When the surcharge mode is disabled and also if the swiped card data contains BIN number that was entered during installation, the surcharge warning message will not be displayed. When the surcharge mode is enabled, the surcharge amount and owner name will be displayed in the surcharge warning screen during transaction. The factory default is surcharge enabled, surcharge amount is \$1.50 and the surcharge owner is none.



6.4.3.3 BIN(Bank Identification Number) LIST

The “BIN LIST” is used to register the bank identification number. When the cardholders make transaction with the given BIN code, ATM doesn’t request any additional fee. However, it is necessary to confirm the connected host because host will decide whether it uses or not
You can input and edit it by using such as ADD, DELETE, EDIT, DELETE ALL, PREV, NEXT button.

INDEX NO	BIN
1	11111
2	
3	
4	
5	
6	
7	
8	
9	
10	

6.4.3.4 SELECT HOST

[DIALUP] SELECTHOST menu contains COMMUNICATION, MESSAGE FORMAT, VISA FRAMED CONTROL OPTION, REVERSAL RETRY COUNT and STANDARD3 OPTION (STANDARD 3)

[DIALUP] STANDARD 1, 2

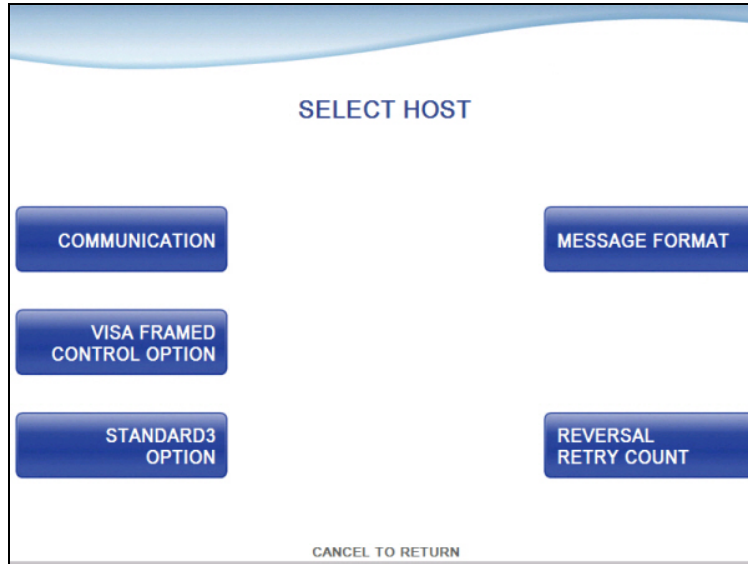
COMMUNICATION

MESSAGE FORMAT

VISA FRAMED CONTROL OPTION

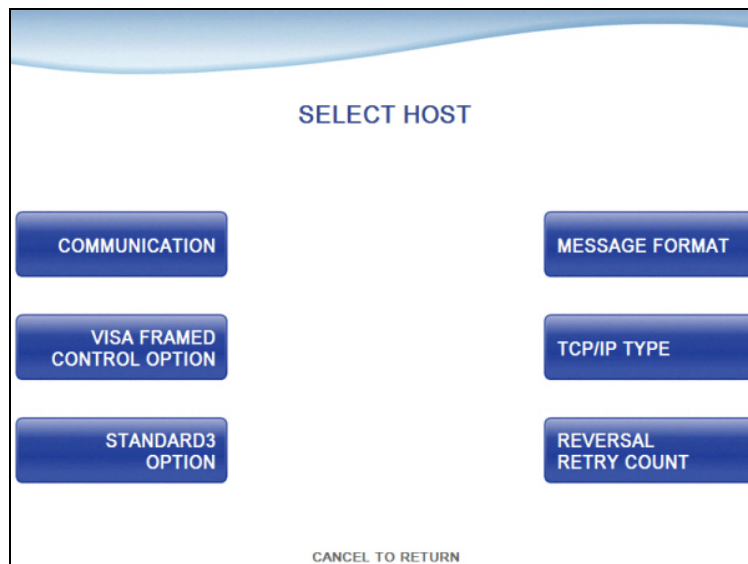
REVERSAL RETRY COUNT

[DIALUP] STANDARD 3

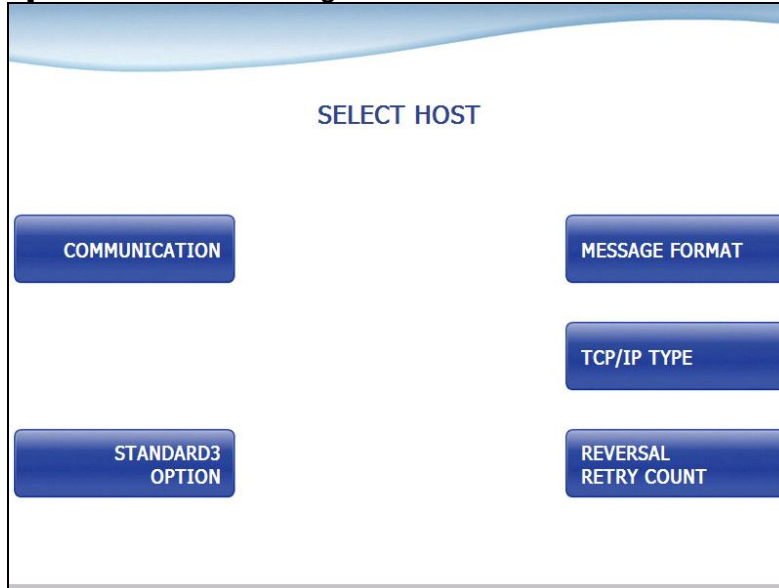


[TCP/IP] SELECT HOST menu contains COMMUNICATION, MESSAGE FORMAT, TCPIP TYPE, REVERSAL RETRY COUNT and STANDARD3 OPTION (STANDARD3)

[TCP/IP] – In case of selecting VISA FRAMED for TCP/IP TYPE

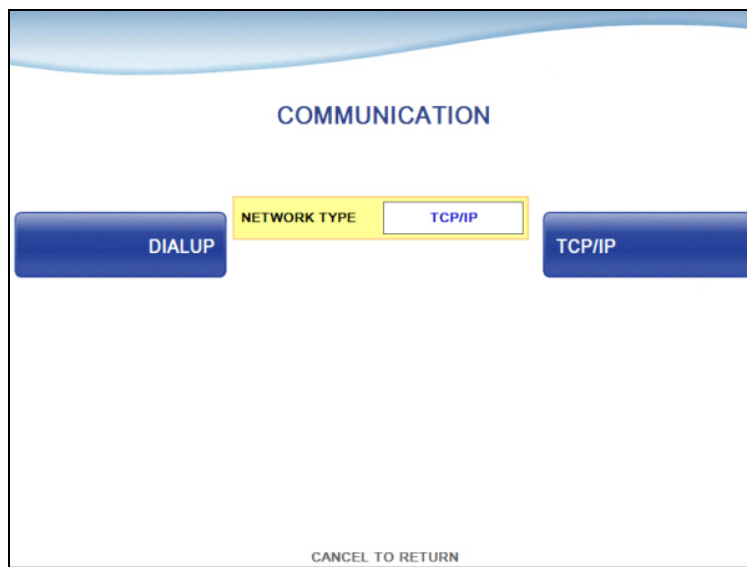


[TCP/IP] – In case of selecting STANDARD TCP/IP for TCP/IP TYPE



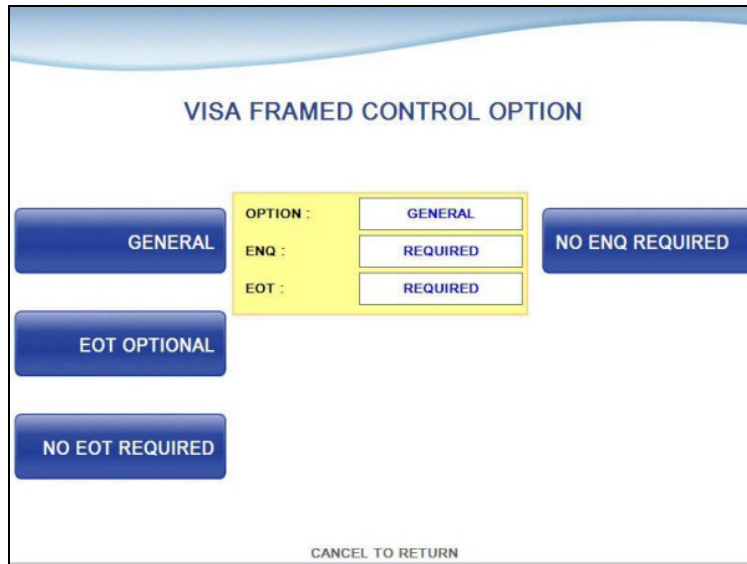
6.4.3.4.1 COMMUNICATION

COMMUNICATION function is used to change Dial-UP and TCP/IP (default) mode



6.4.3.4.2 VISA FRAMED CONTROL OPTION

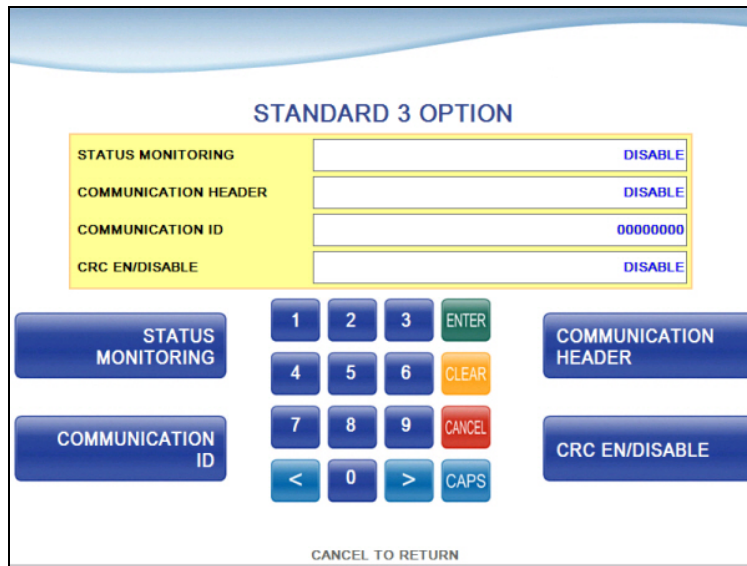
VISA FRAMED CONTROL OPTION contains GENERAL, EOT OPTIONAL, NO EOT REQUIRED (default) and NO ENQ REQUIRED functions. You can select one of these options



6.4.3.4.3 STANDARD3 OPTION

STANDARD3 OPTION contains STATUS MONITORING, COMMUNICATION HEADER, COMMUNICATION ID and CRC EN/DISABLE.

In case of TCP/IP communication CRC EN/DISABLE option can be configured.



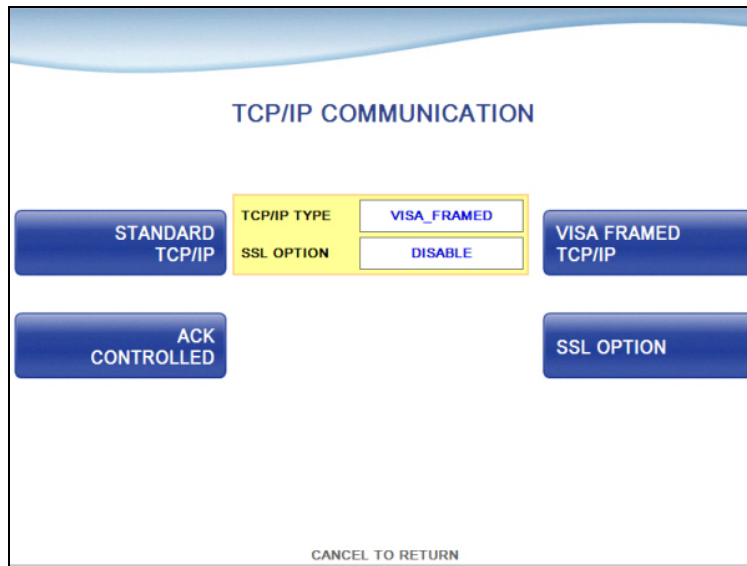
6.4.3.4.4 MESSAGE FORMAT

You can select one of message types to communicate with a data processing company or bank in this menu (STANDARD1, STANDARD2, STANDARD3 and EPS). If STANDARD3 is selected, STANDARD3 OPTION button is displayed on the SELECT HOST Screen.



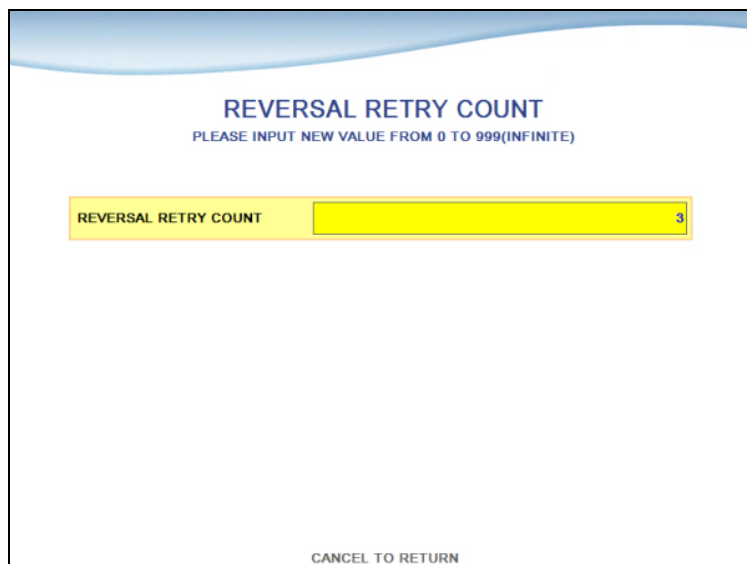
6.4.3.4.5 TCP/IP TYPE

In this menu, you can change TCP/IP TYPE and can decide whether 'ENABLE' or 'DISABLE' about SSL OPTION. There are three kind of TCP/IP type in this TCP/IP COMMUNICATION menu (STANDARD TCP/IP, VISA FRAMED TCP/IP, and ACK CONTROLLED TCP/IP).



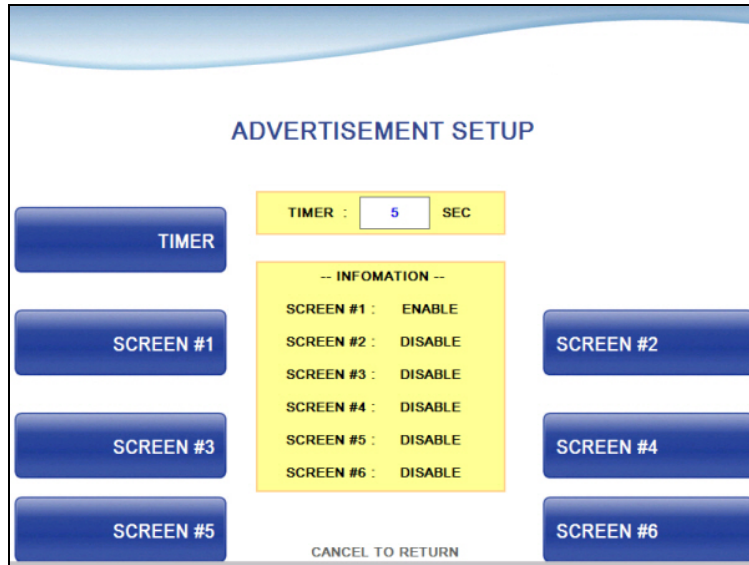
6.4.3.4.6 REVERSAL RETRY COUNT

- Display which is to set the number of retry when failing Reversal.



6.4.3.5 ADVERTISEMENT SETUP

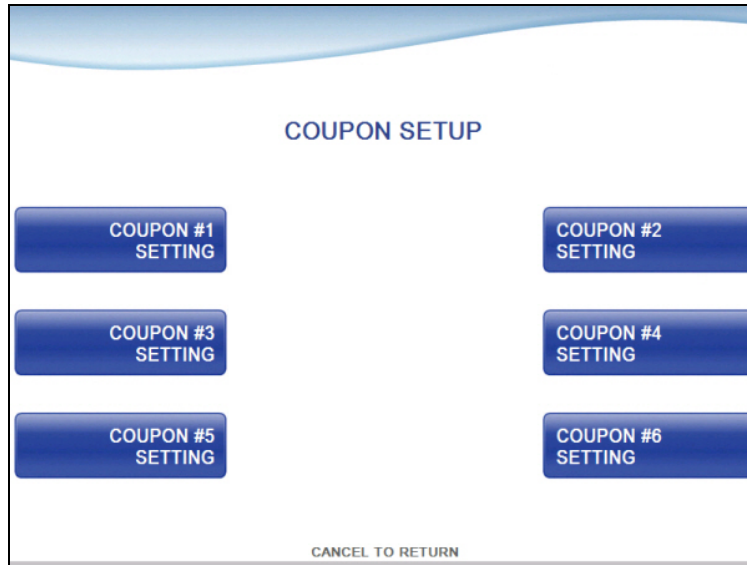
ADVERTISEMENT SETUP function provides six different advertisement screens. If you press the TIMER button, you can change the advertisement display timer and the range is between 5 and 30. If you press other function key beside menu button, you can select ENABLE or DISABLE in the advertisement screen.



The advertisement image can be updated in JPG format image by using the SW Update or RMS. For more information, please refer to “Advertisement Update Guide” document.

6.4.3.6 COUPON SETUP

COUPON SETUP menu contains COUPON1 SETUP, COUPON2 SETUP, COUPON3 SETUP, COUPON4 SETUP, COUPON5 SETUP and COUPON6 SETUP. Please press function key beside menu button to go to next screen. To go back to the previous screen, just press the <Cancel> Key in pinpad.



6.4.3.6.1 COUPON#n SETUP

COUPON#n SETUP menu provides COUPON#n EN/DISABLE function and you can set COUPON#n TEXT#1 and COUPON#n TEXT#2 in this screen.

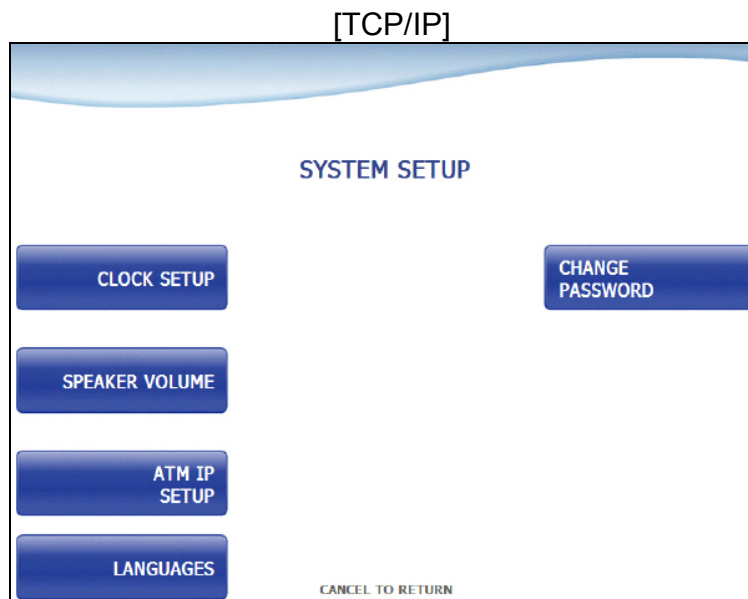
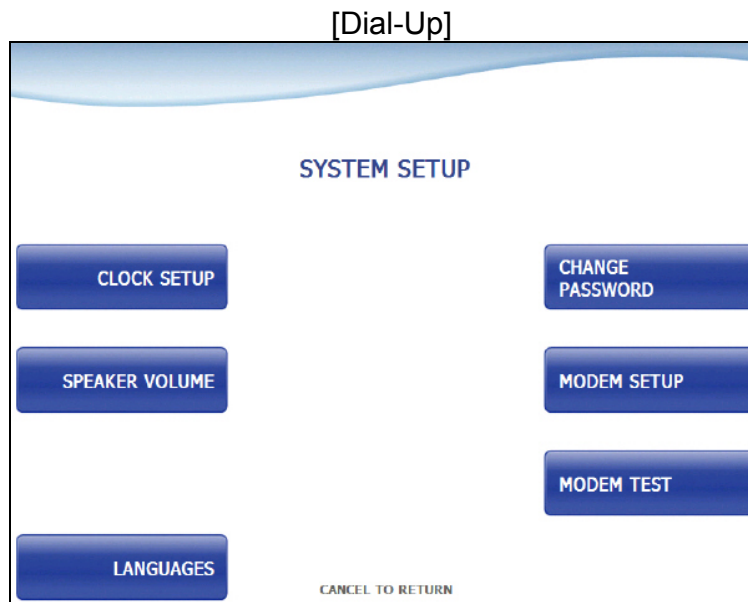


6.4.4 SYSTEM SETUP

[DIALUP] This system setup menu contains SET CLOCK, CHANGE PASSWORD, SPEAKER VOLUME, MODEM SETUP, MODEM TEST and LANGUAGES.

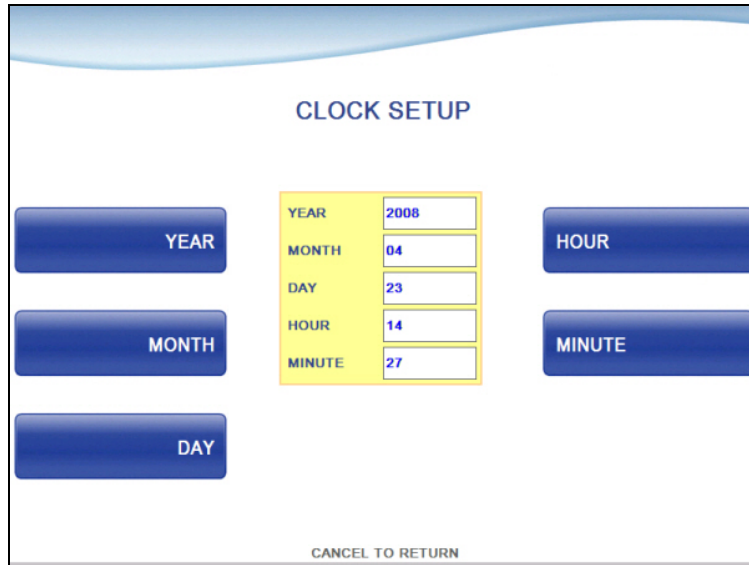
[TCP/IP] This system setup menu contains SET CLOCK, CHANGE PASSWORD, SPEAKER VOLUME, ATM IP SETUP and LANGUAGES.

Please press function key beside menu button to go to next screen. To go back to the previous screen, just press the <Cancel> key in pinpad.

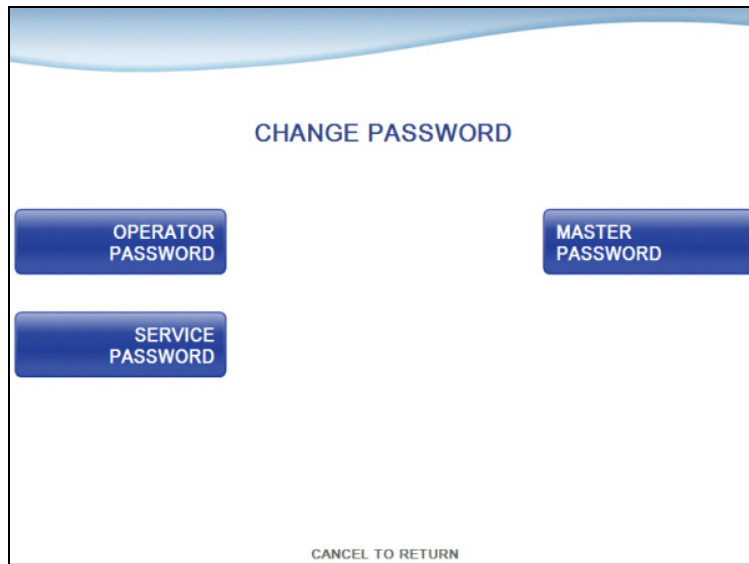


6.4.4.1 SET CLOCK

You can set system date and time by pressing YEAR, HOUR, MONTH, MINUTE and DAY button. If you press each menu, the cursor will be positioned and you can change the value. This value is saved by pressing <ENTER> key, on the other hand, to go back to the previous screen, just press the <Cancel> key in pinpad.



6.4.4.2 CHANGE PASSWORD



1) OPERATOR PASSWORD

This menu enables you to change current operator password as new one. To change the current password, you should input the proper one in current password field. The factory default value of operator password is "111111".

OPERATOR PASSWORD

PLEASE ENTER THE CURRENT OPERATOR PASSWORD
AND A NEW OPERATOR PASSWORD

CURRENT PASSWORD

NEW PASSWORD

CONFIRM PASSWORD

CANCEL TO RETURN

2) SERVICE PASSWORD

This menu enables you to change current service password as new one. To change the current password, you should input the proper one in current password field. The factory default value of service password is "222222".

SERVICE PASSWORD

PLEASE INPUT THE CURRENT SERVICE PASSWORD
AND A NEW SERVICE PASSWORD

CURRENT PASSWORD

NEW PASSWORD

CONFIRM PASSWORD

CANCEL TO RETURN

3) MASTER PASSWORD

This menu enables you to change current master password as new one. To change the current password, you should input the proper one in current password field. The factory default value of master password is "555555".



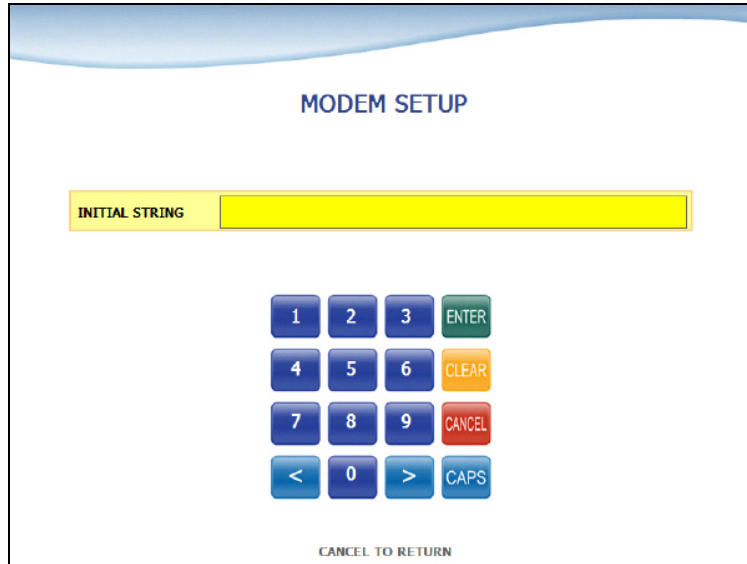
6.4.4.3 SPEAKER VOLUME

The SPEAKER VOLUME function is used to set speaker volume by using DOWN and UP buttons. Once the button is pressed, ATM beeps.



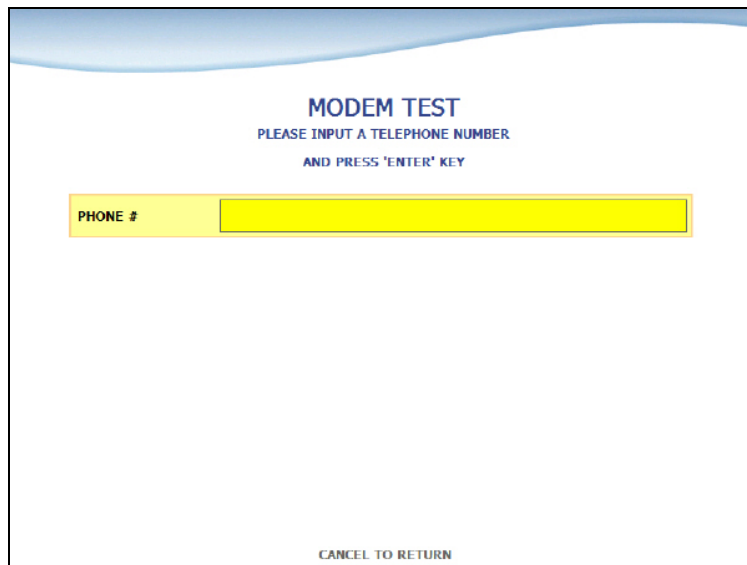
6.4.4.4 MODEM SETUP

The INITIAL STRING function is used to edit the modem initial string when the special circumstance is required by a nonstandard modem initial string. Before editing the initial string, consult with service personnel.



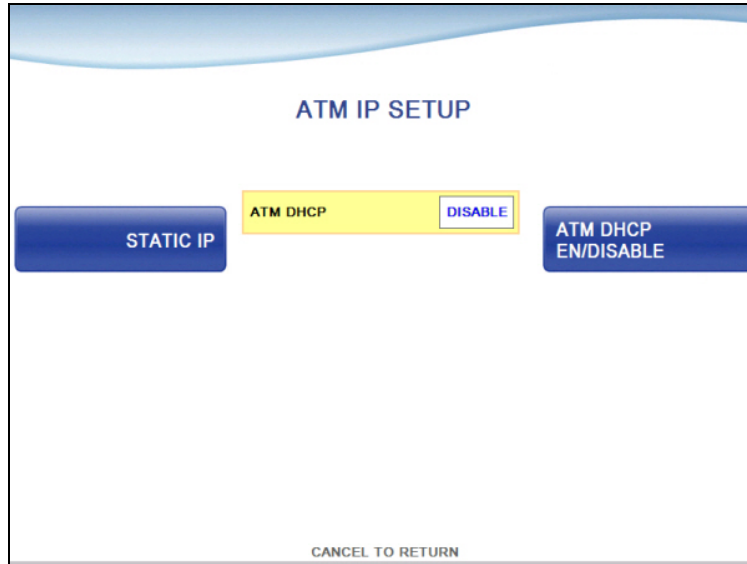
6.4.4.5 MODEM TEST

This function is used to set the telephone number and used to perform the modem dialing test. Character, number or special symbol can be input up to 1~20 digits by using '<' or '>'. This value is saved by pressing <ENTER> key, on the other hand, to go back to the previous screen, just press the <Cancel> key in pinpad.



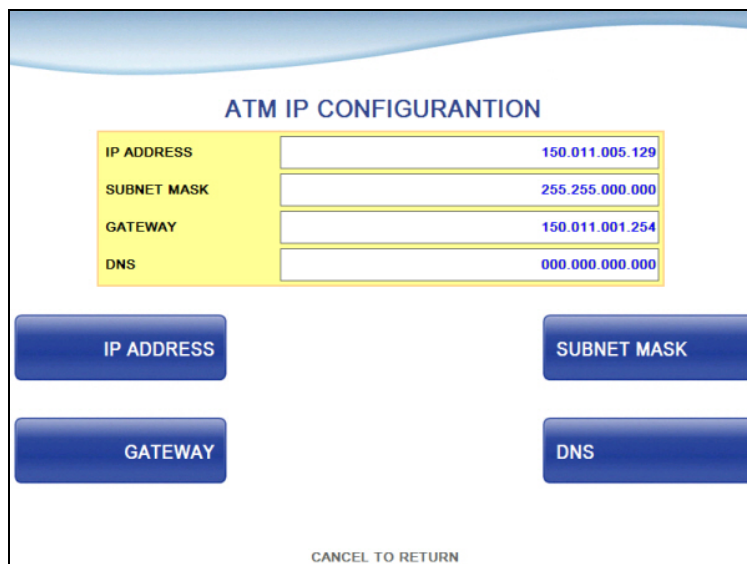
6.4.4.6 ATM IP SETUP

ATM DHCP SETUP menu contains STATIC IP and DHCP EN/DISABLE button. If you press STATIC IP button, you can go to sub menu, which is ATM STATIC IP SETUP. And pressing ATM DHCP EN/DISABLE button will change DHCP status, ENABLE to DISABLE, or DISABLE to ENABLE.



6.4.4.6.1 ATM IP CONFIGURATION

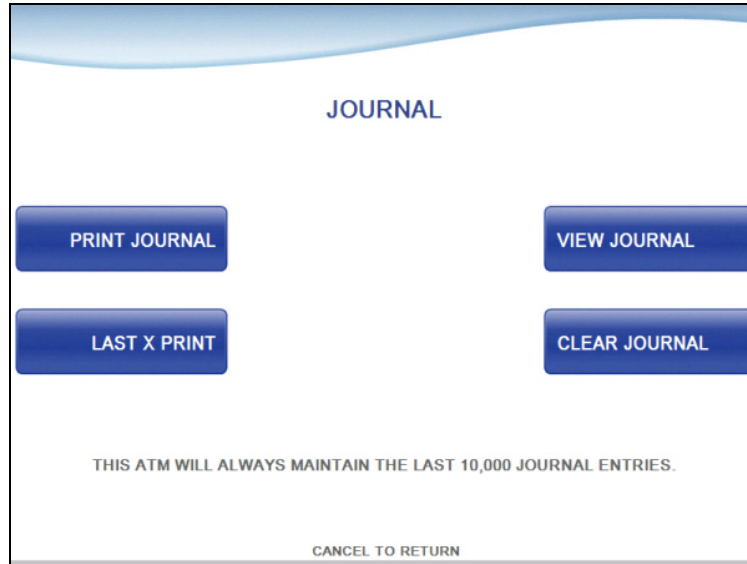
ATM IP CONFIGURATION menu contains IP ADDRESS, GATEWAY, SUBNET MASK, and DNS. If you press each button, you can set each number for your ATM IP Configuration.



If you want to use HOST URL name not IP address, you must input the correct DNS server IP address in DNS field.

6.5 JOURNAL

JOURNAL menu contains PRINT JOURNAL, VIEW JOURNAL, LAST X PRINT and CLEAR JOURNAL.



- PRINT JOURNAL: The PRINT JOURNAL function is used to print out all the journals which have not been printed from the last printed journal. If you want to stop printing, you may stop it by pressing <CANCEL> key.
- VIEW JOURNAL: The VIEW JOURNAL function is used to display the Journal data on the screen. Please refer to next page for more details.
- LAST X PRINT: LAST X PRINT is used to print the latest X journals.
- CLEAR JOURNAL: The CLEAR JOURNAL function is used to delete all journal data

6.5.1 VIEW JOURNAL

You can see the various kinds of journal date by using each field and button. The VIEW function is used to display the Journal data on the customer screen. The Journal record will be displayed on the screen. You can check up journal data you would try to search by using SEARCH JOURNAL button and just print out the current journal by pressing PRINT THIS button.

VIEW JOURNAL

TODAY	04/23/2008	TOTAL COUNT	9975
START INDEX	500	END INDEX	475

JOURNAL DATA

```
[ 04/23/2008 14:23:55 J#:0475 ]
* INTO OPERATOR MODE *
LOGIN MODE - MASTER
```

PREV

PREV 50

MOVE START

PRINT THIS

NEXT

NEXT 50

MOVE LAST

SEARCH JOURNAL

CANCEL TO RETURN

- PREV : Move to the previous journal
- PREV 50 : Move to the previous 50 journals
- NEXT : Move to the next journal
- NEXT 50 : Move to the next 50 journals
- MOVE START : Move to the first journal
- MOVE LAST : Move to the last journal

6.5.1.1 SEARCH JOURNAL

You can search a specific journal with a journal index and see it if the index is valid.

SEARCH JOURNAL

PLEASE INPUT INDEX FOR SEARCHING JOURNAL

CURRENT INDEX 9683

SEARCH INDEX

CANCEL TO RETURN

6.5.2 LAST X PRINT

- You can print the latest X journals and you can stop it by pressing <CANCEL> key.

LAST X PRINT

PLEASE INPUT COUNT FOR LAST X JOURNAL

LAST X COUNT

CANCEL TO RETURN

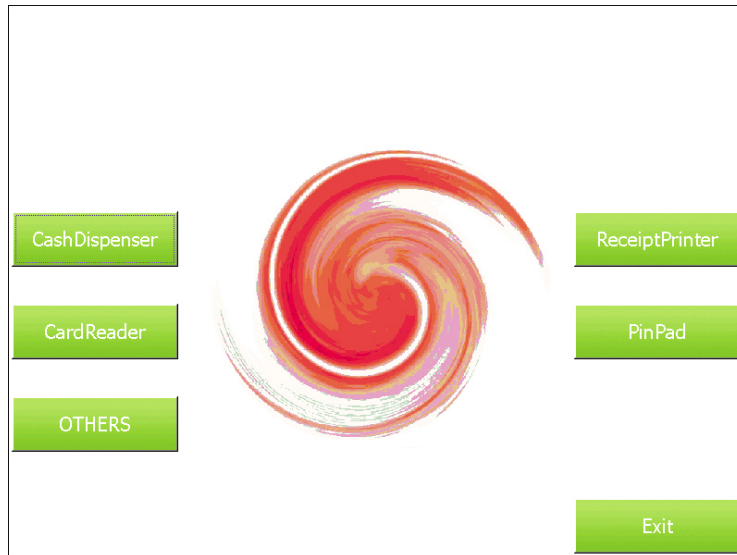
6.6 DIAGNOSTICS



- Function Key Location on ATM -

6.6.1 DIAGNOSTIC MAIN

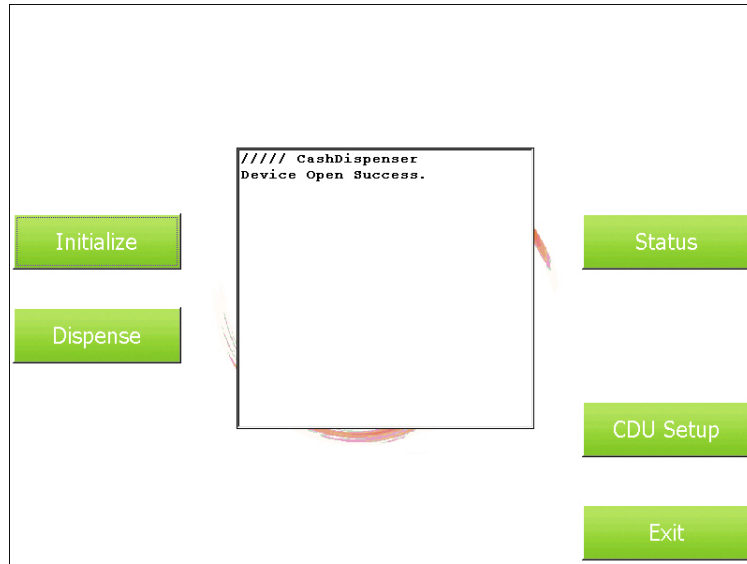
- From the select menu, press 7(Diagnostics) and press ENTER.
- Wait until diagnostics menu screen appears as the below picture.



- You can easily check the status of each device like cash dispenser, card reader, receipt printer, pinpad, others.

6.6.1.1 TEST CASHDISPENSER

- On the diagnostics menu, press F1 -“Cash Dispenser” button.
Wait until Cash Dispenser menu screen appears as the below picture.



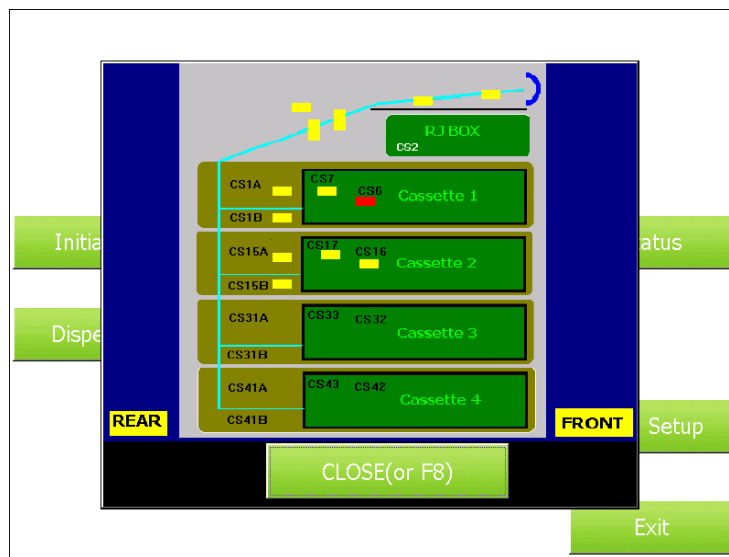
1) INITIALIZE

To initialize Cash Dispenser , just press F1 in Cash Dispenser TEST.

2) STATUS

To Status Cash Dispenser , just press F2 in Cash Dispenser TEST.

Wait until Cash Dispenser Status screen appears as the below picture.



Show the Cash Dispenser Sensor position.

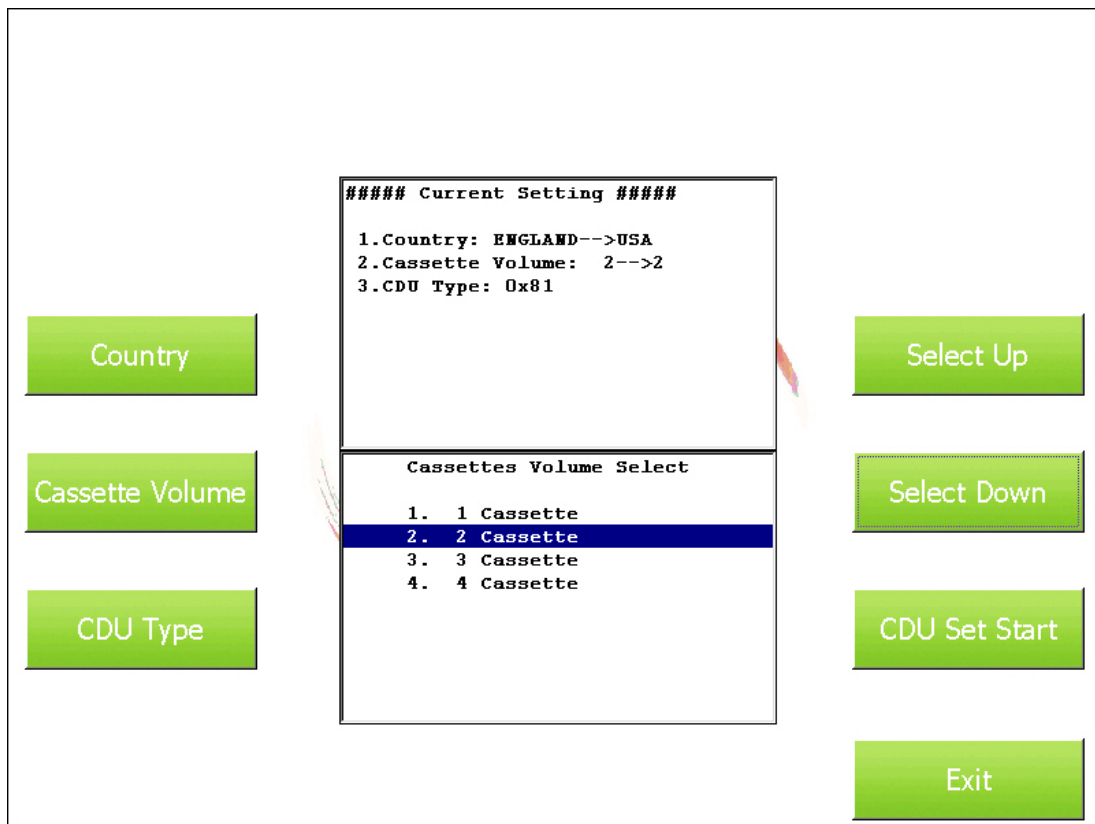
And It will get back upper menu, in other words Cash Dispenser Menu if you Press F8 key.

3) DISPENSE

To dispense bills from Cash Dispenser, just press F3 in Cash Dispenser TEST.

4) CDU SETUP

To change the setting of the Cash Dispenser, just press F6 in Cash Dispenser TEST.



4-1) COUNTRY

To select the country, press F1 and move selection up and down by using F2 or F4.

4-2) CASSETTE VOLUME

To select the number of cassette, press F3 and move selection up and down by using F2 or F4.

4-3) CDU TYPE

To select the number of cassette, press F3 and move selection up and down by using F2 or F4.

4-4) SELECT UP / SELECT DOWN

To move selection up and down, press F2 or F4 in CDU Setup.

4-5) CDU SET START

To execute CDU Setting command for Cash Dispenser, press F6 after selecting the setting up.
Then below screen will be shown.



4-5-1) CANCEL

To cancel setting command execution, press F1 in above screen.

4-5-2) OK

To execute setting command, press F2 in above screen.

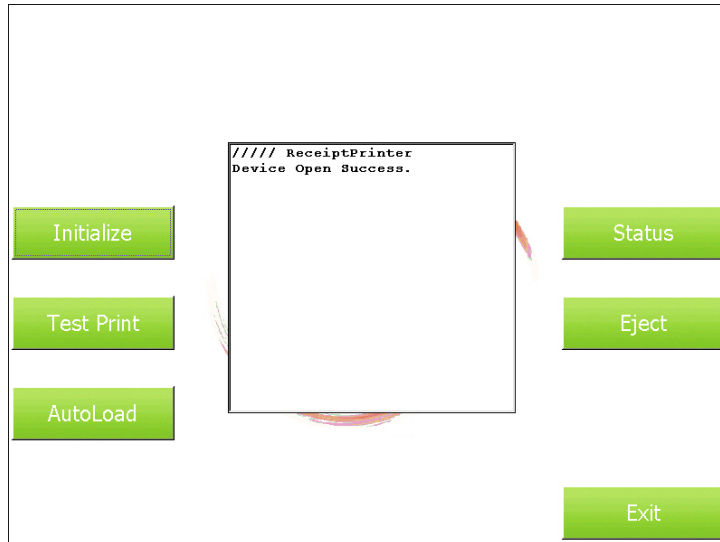
5) EXIT

To finish Cash Dispenser, just press F8 in Cash Dispenser TEST.
And It will go back to the Main Screen.

6.6.1.2 TEST RECEIPT PRINTER

- On the diagnostics menu, press F2 "Receipt Printer" button.

Wait until Receipt Printer menu screen appears as the below picture.



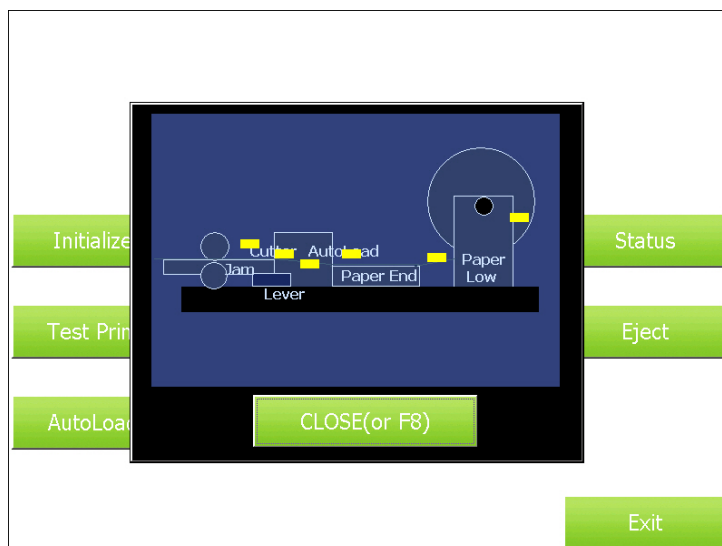
1) INITIALIZE

To initialize Receipt Printer, just press F1 in Receipt Printer TEST.

2) STATUS

To Status Receipt Printer, just press F2 in Receipt Printer TEST.

Wait until Receipt Printer Status screen appears as the below picture.



This screen shows you the position of sensor on Receipt Printer. And It will go back to Receipt Printer Menu if you press F8.

3) TEST PRINT

To Test Print Receipt Printer, just press F3 in Receipt Printer TEST.

4) TEST EJECT

To Eject Receipt Printer, just press F4 in Receipt Printer TEST.

5) TEST AUTOLOAD

To automatically load Receipt Printer, just press F5 in Receipt Printer TEST.

6) TEST GET VERSION

To Get Version about Receipt Printer, just press F6 in Receipt Printer TEST.

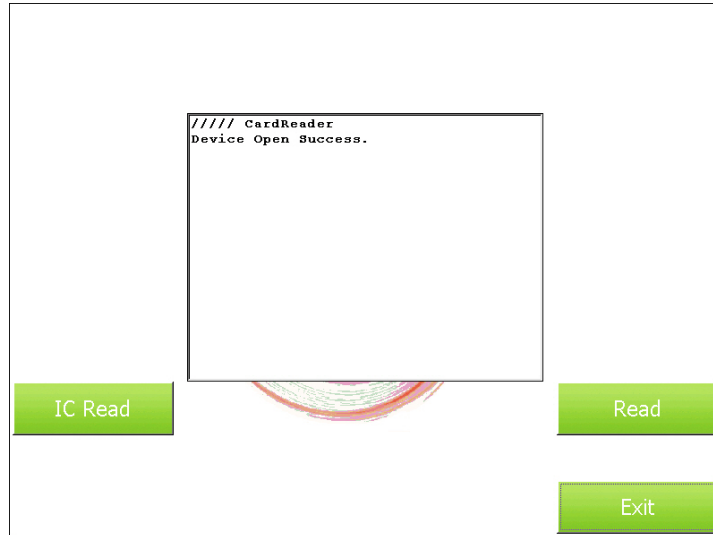
7) EXIT

To finish testing about Receipt Printer, just press F8 in Receipt Printer TEST.
And It will get back Main Screen.

6.6.1.3 TEST CARDREADER

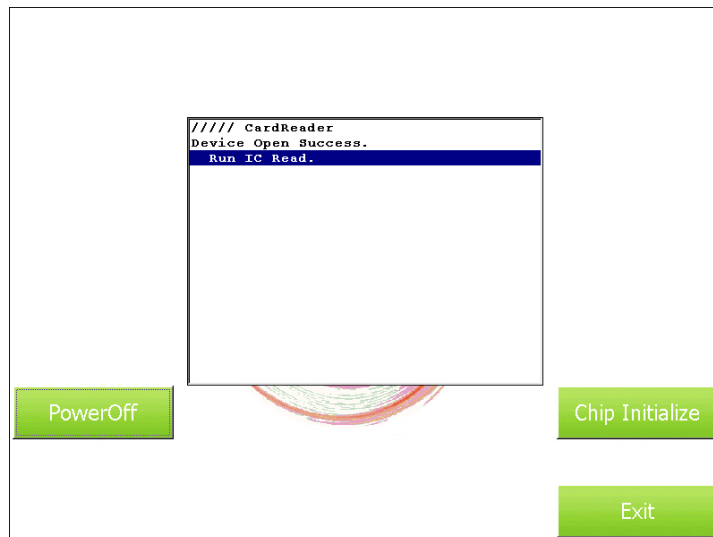
On the diagnostics menu, press F3 “Card Reader” button.

Wait until Card Reader menu screen appears as the below picture.



1) IC READ

To test read IC card on card reader, just press F5 in Card Reader TEST.



1-1) POWEROFF

To finish testing read IC card, just press F5.

1-2) CHIP INITIALIZE

To test read IC card, just press F6 after inserting IC card into card reader.

2) READ

To test read magnetic card on card reader, just press F6 in Card Reader TEST.

3) EXIT

To finish testing about Card Reader, just press F8 in Card Reader TEST.

And It will go back to Main Screen.

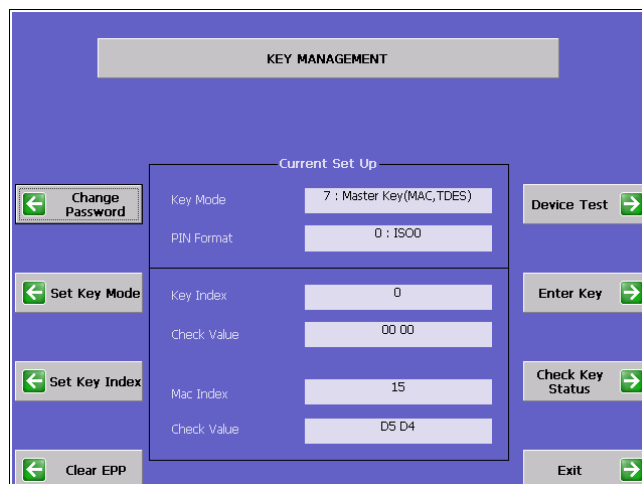
6.6.1.4 TEST PINPAD

On the diagnostics menu, press F4 “PinPad” button.

Wait until PinPad menu screen appears as the below picture.



- Press ‘Start’ button and enter the 1st password to execute program. (Default password is ‘000000’)
- Press ‘Start’ button and enter the 2nd password to execute program. (Default password is ‘000000’)
- If you enter 2 passwords correctly, program would start like the screen below.



1) Device Test

To confirm each key is properly working, first enter Device Test mode.

You can know easily each value will be displayed by pressing one by one.

2) EXIT

To finish testing PinPad, just press F8 in PinPad TEST.

And It will get back Main Screen.

6.6.1.5 TEST OTHERS

On the diagnostics menu, press F5 "OTHERS" button.

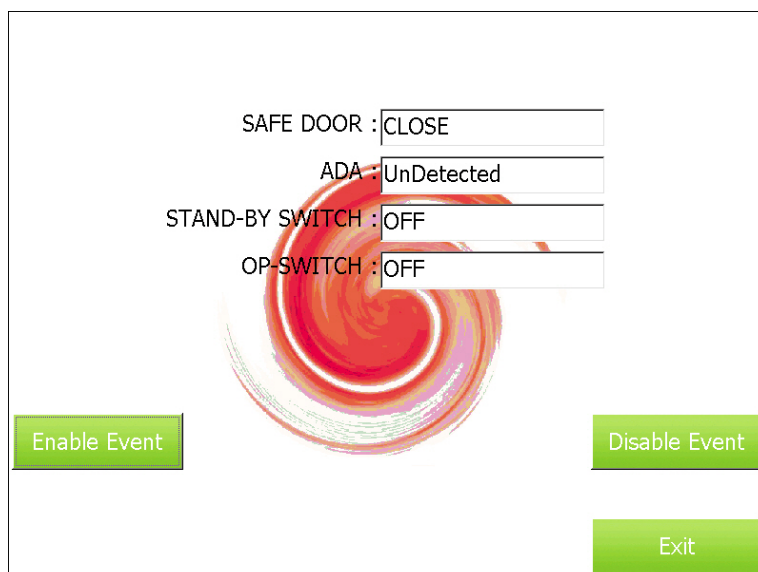
Wait until OTHERS menu screen appears as the below picture.



1) TEST SENSOR

On the OTHERS menu, press F1 "Sensor" button.

Wait until Sensor menu screen appears as the below picture.



1-1) ENABLE EVENT

To check the status of sensor, just press F5 in Enable Event Button.

1-2) DISABLE EVENT

To turn the sensor to be disable, just press F6 in Disable Event Button.

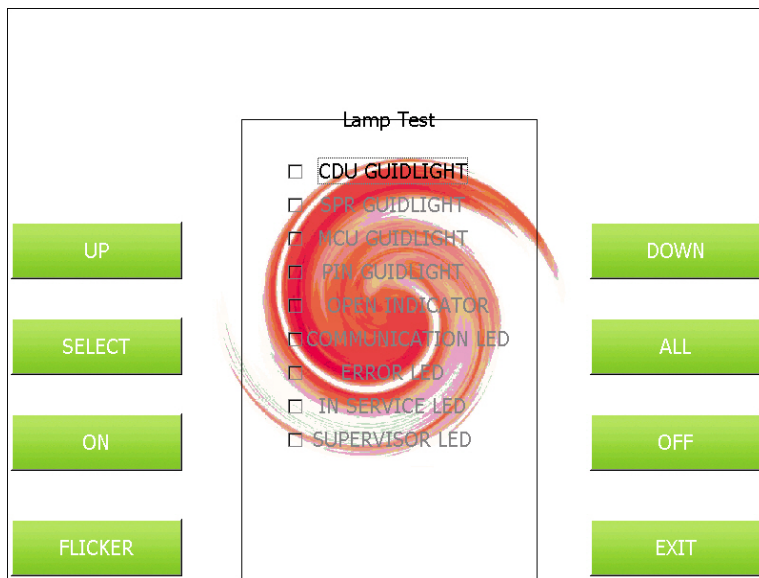
1-3) EXIT

To finish testing sensor, just press F8 in Sensor TEST. And It will get back OTHERS Screen.

2) TEST LAMP

On the OTHERS menu, press F2 “Lamp” button.

Wait until Lamp menu screen appears as the below picture.



2-1) UP.DOWN.SELECT.ALL

To check the status of lamp, It can select just press F1 ~ F4.

2-2) ON

To turn the lamp on, just press F5 in ON Button

2-3) OFF

To turn the lamp off, just press F6 in OFF Button.

2-4) FLICKER

To turn the lamp to blink, just press F7 in FLICK R Button

2-5) EXIT

To finish testing lamp, just press F8 in Lamp TEST. And It will get back OTHERS Screen.

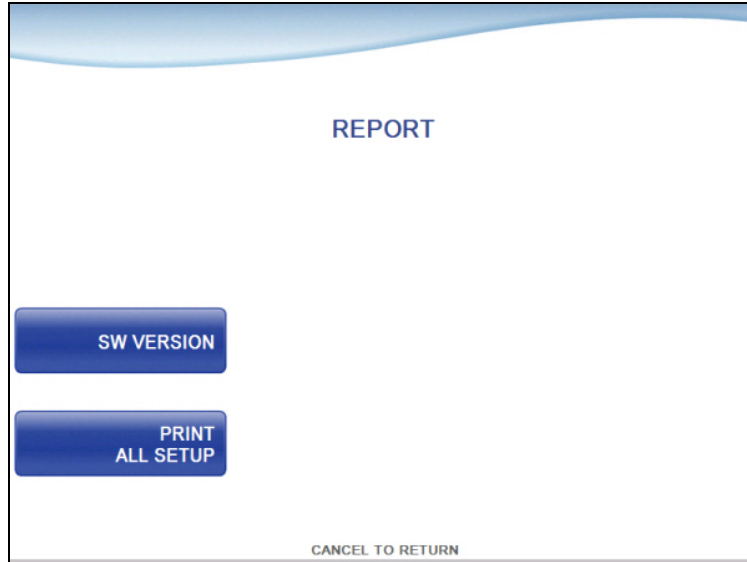
6.6.1.6 EXIT DIAGNOSTIC

On the diagnostics menu, press F8 "EXIT" button to exit this mode completely.

And then ATM will reboot in seconds and welcome screen will be displayed automatically.

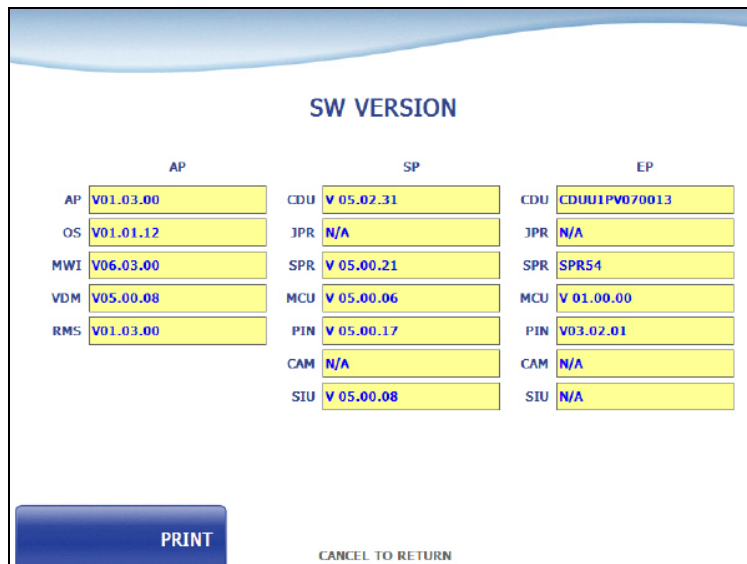
6.7 REPORT

This report menu consists of 2 sub-menus. You can print out all information regarding each device as well as system value set up. If you want to go back the previous screen, just press the <Cancel> key.



6.7.1 SW VERSION

This menu shows each software versions. Application, O/S, MWI, VDM, RMS, CDU SP, SPR SP, MCU SP, PIN SP, SIU SP, CDU F/W, SPR F/W, MCU F/W and PIN F/W versions will be displayed.



6.7.2 PRINT ALL SETUP

•PRINT ALL SETUP List

[DIAL – UP]

NO	ITEM	DESCRIPTION	REMARKS
1	Date	CURRENT DATE & TIME	
2	HOST PROCESSOR	HOST PROTOCOL TYPE	
3	NETWORK TYPE	DIAL-UP , TCP/IP	
4	VISA FRAMED OPTION	VISA FRAMED OPTION	
5	VERSION INFORMATION	AP / SP / EP VERSION	
6	SYSTEM SETUP	CURRENT CASSETTE REJECT	
		CURRENT BILLS	
		SERIAL NUMBER	
		SPEAKER VOLUME	
		MODEM INITIAL STRING	
7	CUSTOMER SETUP	RECEIPT HEADER INFO	
		RECEIPT ADDRESS INFO	
		RECEIPT PHONE INFO	
		SURCHARGE OWNER	
		SURCHARGE MODE	
		SURCHARGE AMOUNT	
		MOD10 MODE	
		REVERSAL RETRY COUNT	
		BIN LIST	
		ADVERTISEMENT TIME	
		ADVERTISEMENT #n MODE	
		COUPON #n MODE	
		8	TRANSACTION SETUP
CURRENCY ID			
DENOMINATION			
FAST CASH			
LOW CURRENCY CHECK			
TERMINAL ID			
STANDARD #3 OPTION			
ROUTING ID			
HOST PHONE NUMBER			
HEALTH CHECK OPTING			
RMS OPTION			
KEY MODE			

		MASTER KEY INDEX	
		MKEY LIST	

[TCP / IP]

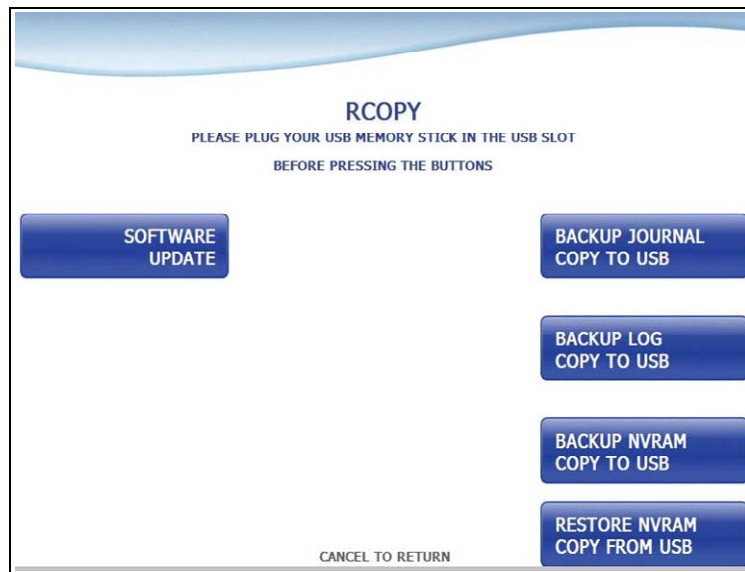
NO	ITEM	DESCRIPTION	REMARKS
1	Date	CURRENT DATE & TIME	
2	HOST PROCESSOR	HOST PROTOCOL TYPE	
3	NETWORK TYPE	DIAL-UP , TCP/IP	
4	TCP/IP TYPE	TCP/IP TYPE	
5	CRC CHECK MODE	CRC OPTION	
6	SSL MODE	SSL OPTION	
7	VERSION INFORMATION	AP / SP / EP VERSION	
8	SYSTEM SETUP	CURRENT CASSETTE REJECT	
		CURRENT BILLS	
		SERIAL NUMBER	
		SPEAKER VOLUME	
		ATM IP OPTION	
9	CUSTOMER SETUP	RECEIPT HEADER INFO	
		RECEIPT ADDRESS INFO	
		RECEIPT PHONE INFO	
		SURCHARGE OWNER	
		SURCHARGE MODE	
		SURCHARGE AMOUNT	
		MOD10 MODE	
		REVERSAL RETRY COUNT	
		BIN LIST	
		ADVERTISEMENT TIME	
		ADVERTISEMENT #n MODE	
		COUPON #n MODE	
10	TRANSACTION SETUP	DISPENSE LIMIT	
		CURRENCY ID	
		DENOMINATION	
		FAST CASH	
		LOW CURRENCY CHECK	
		TERMINAL ID	
		STANDARD #3 OPTION	
		ROUTING ID	
		HOST PHONE NUMBER	

		HEALTH CHECK OPTING	
		RMS OPTION	
		KEY MODE	
		MASTER KEY INDEX	
		MKEY LIST	

6.8 RCOPY(Remote Copy)

You can back up a various kinds of journal, log and NVRAM data you want in this menu. Please make sure that USB memory stick is connected into USB slot before pressing the button. When BACKUP JOURNAL COPY TO USB, BACKUP LOG TO USB or BACKUP NVRAM button is selected, this data will be sent into USB flash drive. When RESTORE NVRAM button is selected, NVRAM setting data will be copied from USB flash drive and ATM will start to reboot. When SOFTWARE INSTALLATION is entered, it will change to the screen of SOFTWARE INSTALLATION. This is because Software Update functionality is supported at RCOPY menu. When RCOPY is submitted the files in USB flash drive will be copied to the ATM.

If you want to go back to the previous screen, just press the <Cancel> key.



6.8.1 SW UPDATE

This is a menu to update software. Please make sure that new software is included in the USB flash drive and is connected into USB slot before implementing it. When SW UPDATE button is selected, new software in the USB drive is transferred to a directory of ATM and ATM will start to reboot automatically. If you want to go back the previous screen, just press the <Cancel> key.



6.9. KEY MANAGEMENT

6.9.1 Start Screen

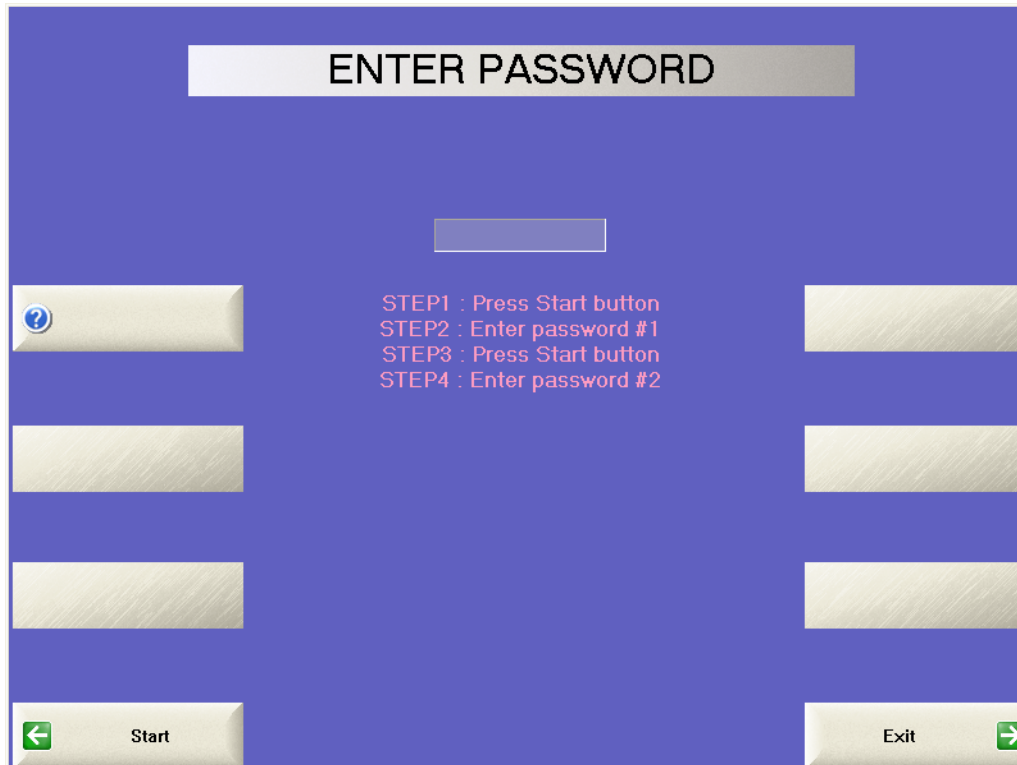


Fig. 6.1 Start Screen (Enter Password)

- From the Supervisor Menu press Diagnostics. From Diagnostics select Pinpad
- Press 'Start' button and enter the 1st password to execute program.
(Default password is '000000')
- Press 'Start' button and enter the 2nd password to execute program.
(Default password is '000000')
- If you enter 2 passwords correctly, program would start like below screen.

6.9.2 Main Screen

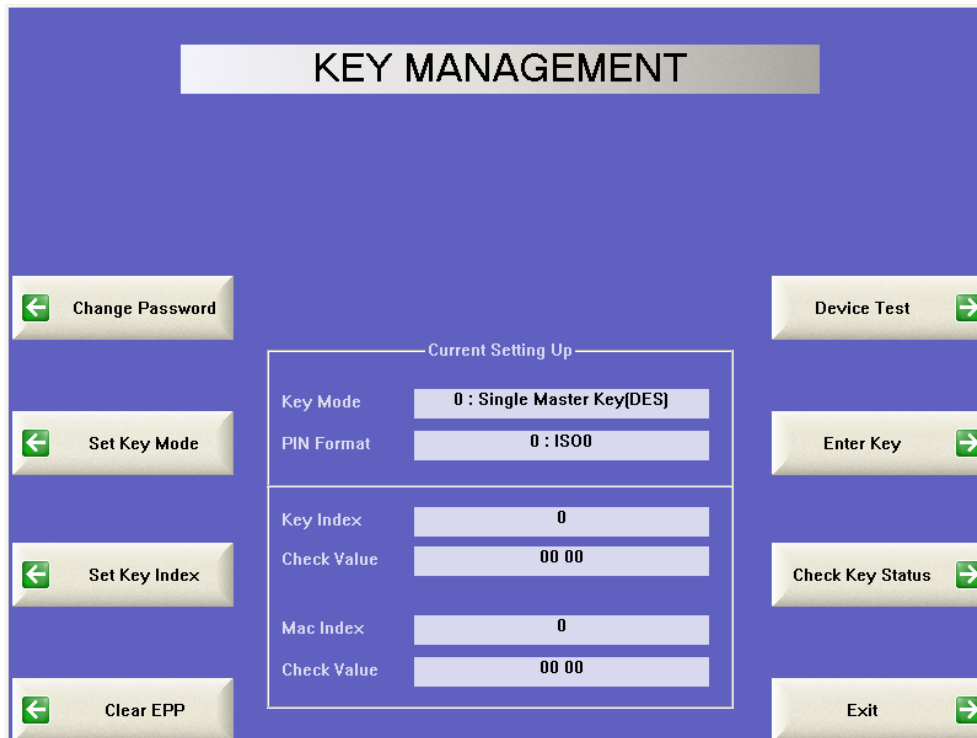


Fig. 6.2 Main Screen

- Change Password
Change the password by executing "Change Password";
- Set Key Mode
This ATM supports the capability for DES (Single-DES, Dual-DES, Triple-DES, MAC, and Unique Key). You can select DES mode by entering this function.
- Set Key Index
You can enter multiple master keys and have to select one of them. For security issue, DP(Data Processor) may change key index when they need to change master key.
- Enter Key
The authorized persons by bank or DP(Data Processor) will enter the master key(s) with this menu.
- Clear EPP
Initialize all data in the EPP device. Injected all keys are deleted, and key mode becomes 0.
- Check Key Status
The authorized persons can verify the injected key(s) with this menu after key entry.

6.9.3 Setting the Key Mode

☞ Mapping table to enter DES keys

Number	Customer Keyboard (EPP)	DES Key
1	0	0
2	1	1
3	2	2
4	3	3
5	4	4
6	5	5
7	6	6
8	7	7
9	8	8
10	9	9
11	◀	A
12	▶	B
13	Space (Blank)	C
14	Cancel	D
15	Clear	E
16	Enter	F

Table. 6.1 Key Mapping Table

☞ There are 2 kinds of customer keyboard(EPP). The difference is the position of 'Enter', 'Clear' and 'Cancel' keys. The memory is efficient that 'Enter' key is always mapped to 'F'.

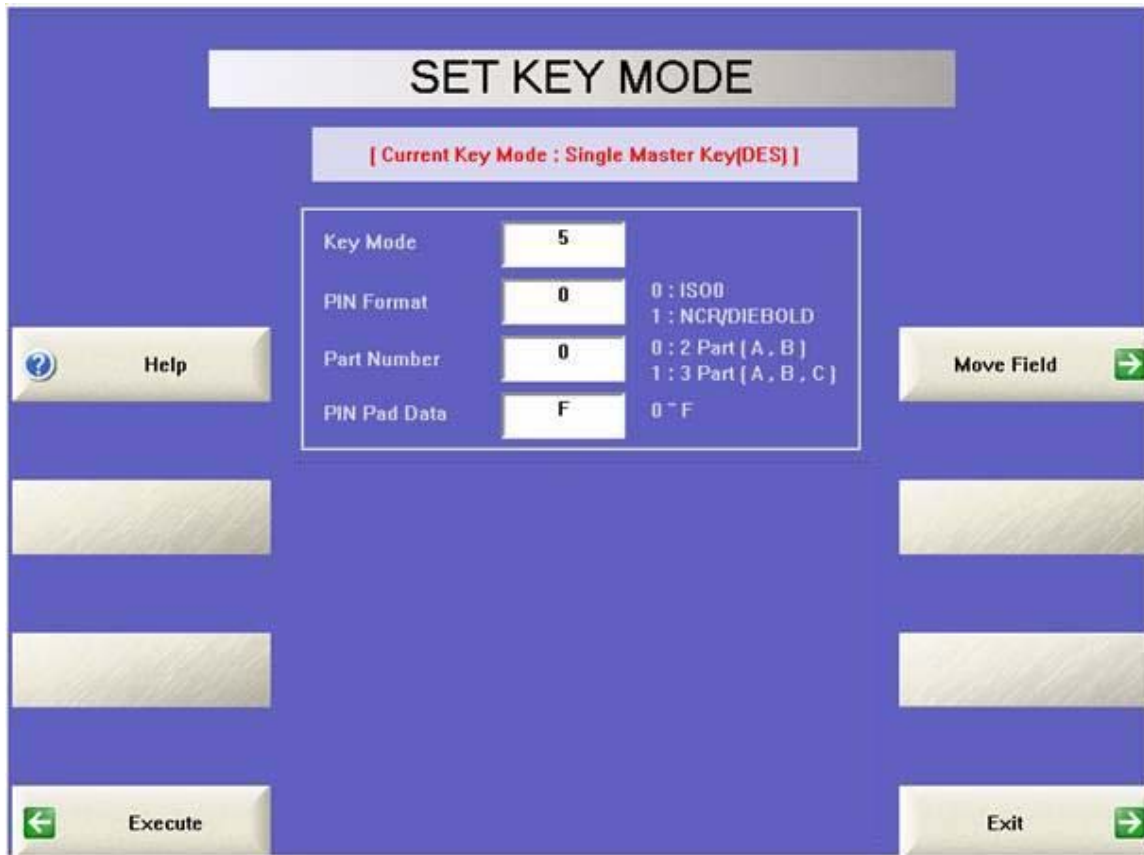


Fig. 6.3 Set Key Mode Screen

1. Enter mode number(See “Key Mode Information” on screen)

Mode No.	Mode Information
0	Singe Master Key(DES)
1	Dual Master Key(DES)
2	Unique Key(DES)
3	Master Key(TDES)
4	Unique Key(TDES)
5	Single Master(Mac, DES)
6	Unique Key(Mac, DES)
7	Master Key(Mac, TDES)
8	NDC(DES)
9	NDC(TDES)
10	T-DES, T-MAC
10	T-DES, T-MAC (China)
11	T-DES, T-MAC (Option 1)

2. Enter "PIN Format" (Default is "0")
 - 0: ISO0
 - 1: NCR/DIEBOLD
 3. Enter 'Part Number" (Default is "0" and do not need consider this field.)
 4. Enter "PIN Pad Data" (0~F)
 5. Submit by touching "EXECUTE". If submission is successful, "EXECUTION SUCCESS" message will be displayed on the screen. If not, "EXECUTION FAILURE" message will be displayed.
 6. If you want to see help, press 'Help" button.
- ☞ To move the field after entering data, touch "Move Field"

6.9.4 Key Entry



Fig. 6.4 Enter Master Key Screen

1. Enter "1" at "Part number" field. (Part A : 1, Part B : 2)
 - ⇒ The cardholders can not make the financial transaction until the entry of Part A and Part B is finished.
 - ⇒ The way how to enter Part B data is same to Part A except Part number "2"
2. Enter the Key Index(0~11).
3. Submit by touching "Execute" button.
4. "Input Key" field will be activated on the screen with a cursor blinking. Enter the left half of the Part A key.
5. The message, "PART A Key (LEFT) input finished! Please press execute button to verify." will be displayed on the screen. Submit by touching "Execute" button.
6. The message, "Verify Key" will be displayed on the screen with a cursor blinking. Enter the left half of the Part A key again.
7. The message, "Part A Key (LEFT) input success!" will be displayed on the screen followed by "Press the execute button to input Part A key (RIGHT)". Submit by touching "Execute" button.
8. "Input Key" field will be activated on the screen with a cursor blinking. Enter the right half of the

Part A key.

9. The message, "PART A Key (RIGHT) input finished! Please press execute button to verify." will be displayed on the screen. Submit by touching "Execute" button.
10. The message, "Verify Key", will be displayed on the screen with a cursor blinking. Enter the right half of the Part A key again.
11. The message, "Part A Key (RIGHT) input success!" will be displayed on the screen. Submit by touching "Execute" button.
12. Exit by touching "Exit" button.

6.9.5 Confirmation of the entered keys

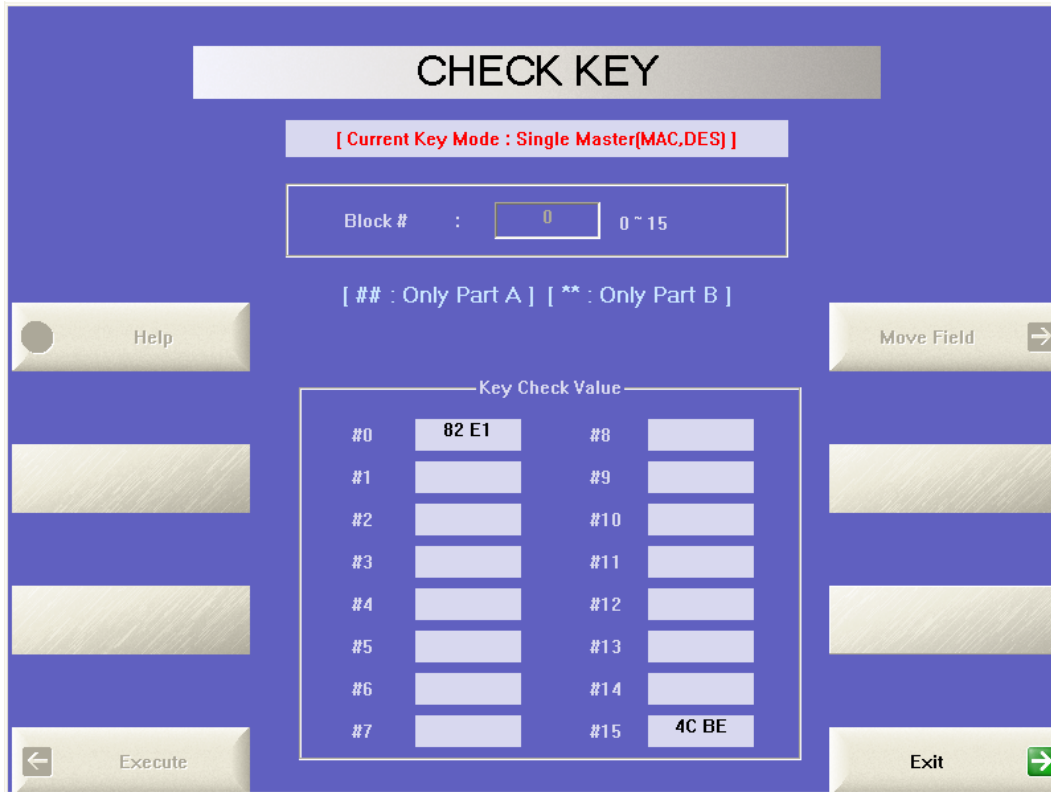


Fig. 6.5 Check Key Screen

From KEY MANAGEMENT select CHECK KEY STATUS.

Use the Check Key menu to determine which index keys (or partial keys) have been installed on. As shown above, there are full keys installed on positions #0 and #15. Only the index which has been set in the Key Index menu will be used, the other keys are only stored.

If an authorized person has entered a partial key (only his/her half) then the #### or **** is used to tell you which partial key was entered. Once both keys have been properly entered a check digit will be assigned to the index to let you know both halves have been installed.

6.9.6 Change password for execution program



Fig. 6.6 Change Password Screen

If you want to change password for Key Management, press 'Change password' button in the main screen. And press 'Password #1' and "Password #2" button to change password;.

● Main Screen

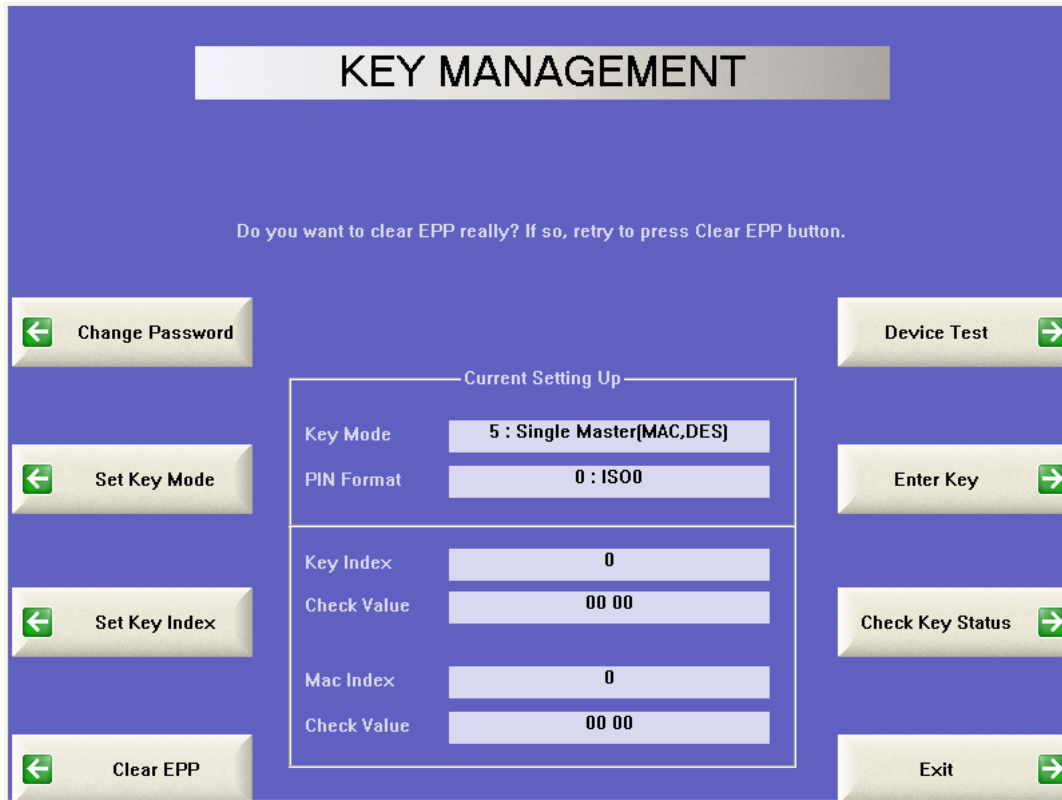


Fig. 6. 8 Key Management Main Screen

- ☞ Device Test : You can test the normal state of customer keyboard (EPP) by pressing keys. The key value will be displayed on screen whenever you press a key.
- ☞ Set Key Mode : Before DES key entry, you have to enter some values (key mode and PIN format) at this screen.
- ☞ Set Key Index : You can enter multiple master keys and have to select one of them. For security issue, DP(Data Processor) may change key index when they need to change master key.
- ☞ Enter Key : After key mode setting at Set Key Mode, the only authorized persons can enter keys
- ☞ Check Key Status : The authorized persons can verify the key enter after key entry
- ☞ Clear EPP : All data in EPP will be cleared.

- DES Key Mode Setting

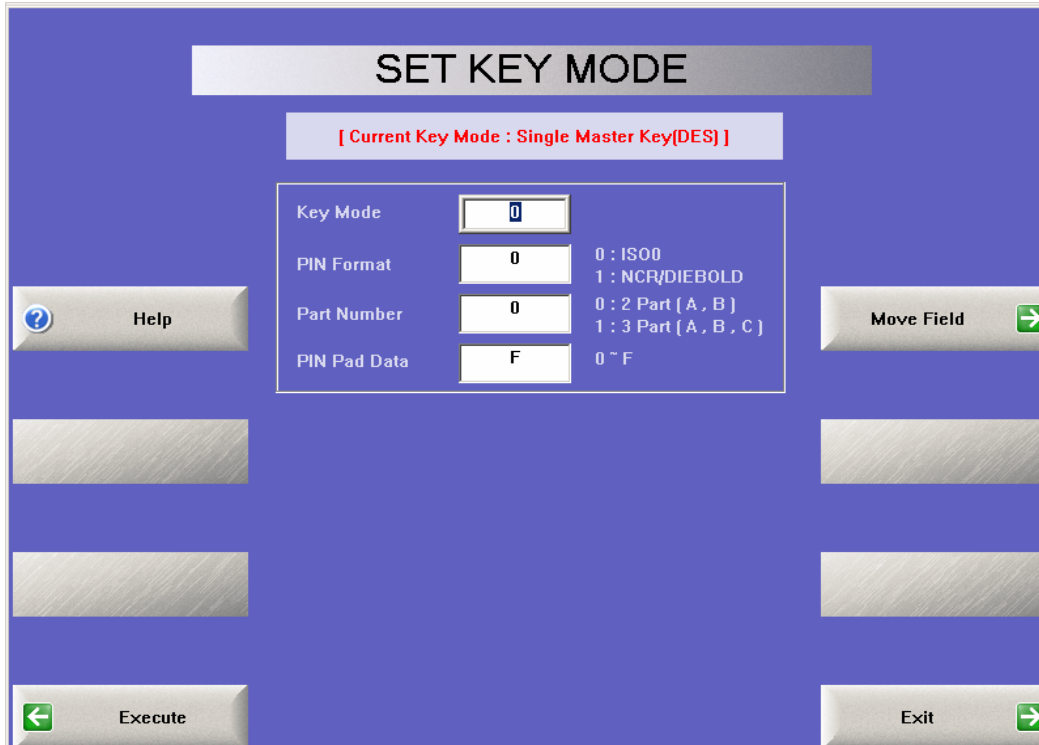
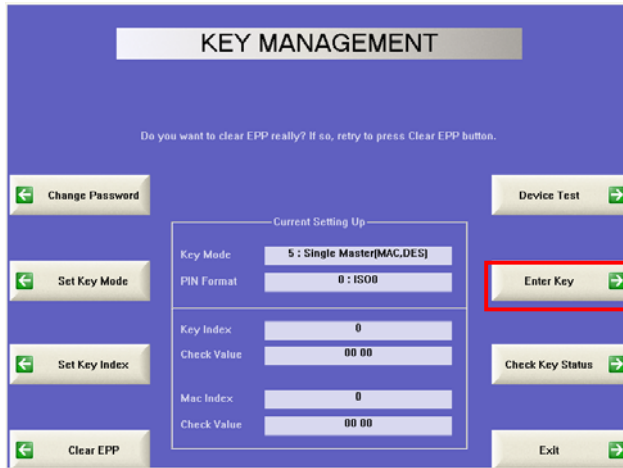


Fig. 6. 9 DES Key Mode Setting Screen

- 1) Enter Key Mode, PIN Format and PIN Pad Data.
- 2) Submit by pressing “Execute” button
- 3) Return to main screen by pressing “Exit” button

- ☞ “Key Mode” defines the type of DES key (8 : Single DES, 9 : Triple DES).
- ☞ “PIN Format” defines the type of algorithm (0 : ISO-0, 1 : Diebold). Nautilus Hyosung recommends strongly no changes. Default value is “0”.
- ☞ “PIN Pad Data” is a padding data in EPP itself. Nautilus Hyosung recommends strongly no changes. Default value is “0”.

● DES Key Entry



1) Select “Enter Key”, “Master Key”, “Unique Key”, Mac Key sequentially

☞ Master Key : Single DES
Unique Key
Mac Key

☞ Master Key (Triple) : Triple DES
Unique Key (Triple)
Mac Key (Triple)



2) Enter “Part Number”, “Block #”, “Key Index” and “Execute” button following Part number “1” or “2”.

☞ ‘1’ : Part A
☞ ‘2’ : Part B



Fig. 6.10 DES Key Entry Screen

3) Enter 16 left half digits for Part A using customer keyboard(EPP) and press “Execute” button to submit.

☞ Re-entering of the same values will be requested to verify that you entered correctly.

4) Enter 16 right half digits for Part A using customer keyboard(EPP) and press “Execute” button to submit.

5) Enter Part B keys with same manner to Part A.

● Verification of DES Key Entry



Fig. 6.11 Verification Screen of Key Entry

1) Go into Verification screen by pressing “Check Key Status” button on Key Management Main Screen.

The setup data will be displayed.

6.10. Software Installation

6.10.1 How to download OS

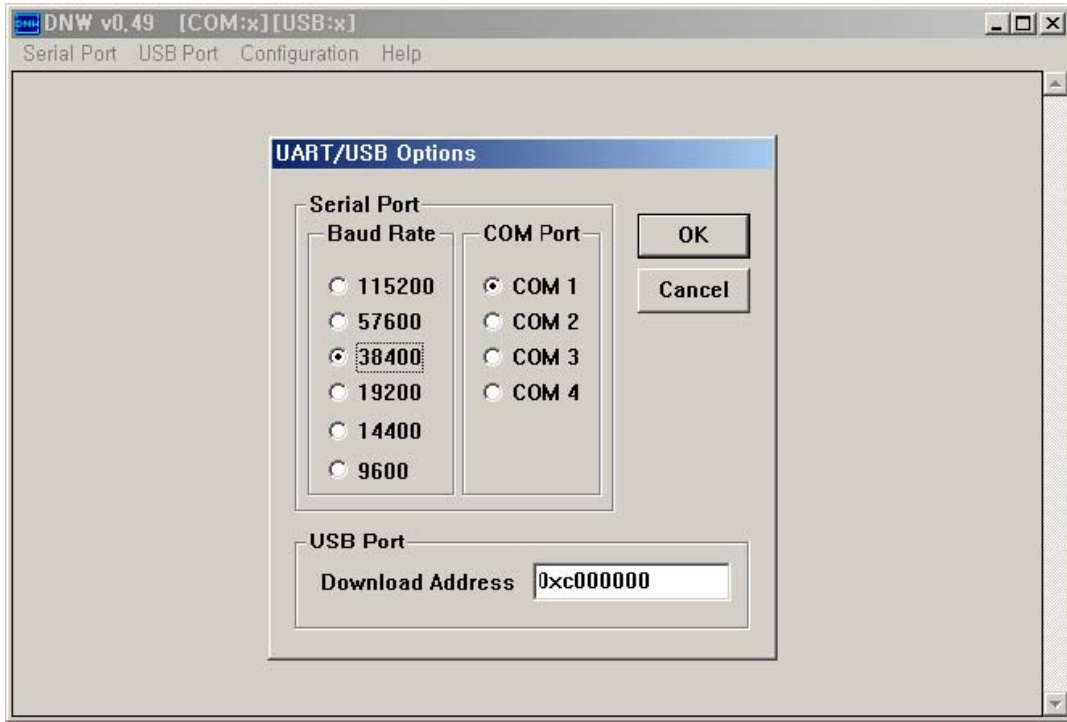
6.10.1.1. OS Image Download (SD: Secure Digital card)

- a. Copy OS Image file, nh270nk.bin, to SD card.
- b. Insert SD card into SD card slot on the board.
- c. Switch on the power. Push the two buttons located under the left bottom function key simultaneously.
- d. Choose SD card to download after the execution of Boot-Loader menu
- e. OS installation is automatically processed.
(The duration time is approximately 12 minutes.)

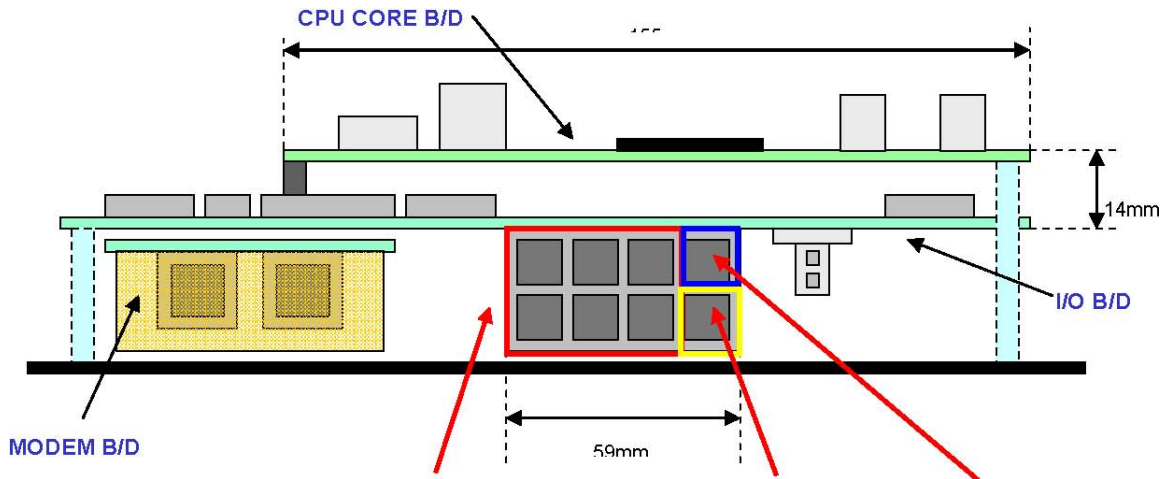
*** SD Card should be formatted in FAT type and memory size of the card must be less than 512 Mb.**

6.10.1.2. OS Image Download (In Case of Download Failure)

- a. Run terminal program.
- b. Set the option as below settings.
- c. Go to Serial Port menu and execute "Connect" command.



d. Connect Debug port in machine and PC. Debug port feature is as follows.



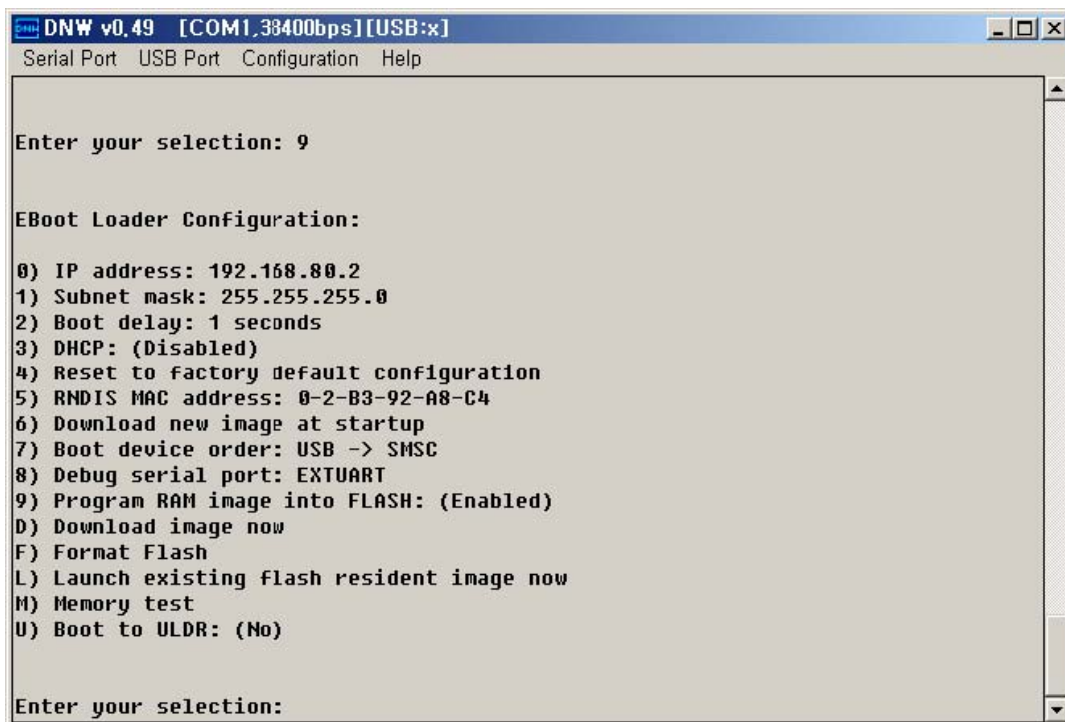
COM0 ~ COM5 COM6 : Debug Port LAN Front Panel

* RJ-45 CONNECTOR BOX PIN ASSIGN

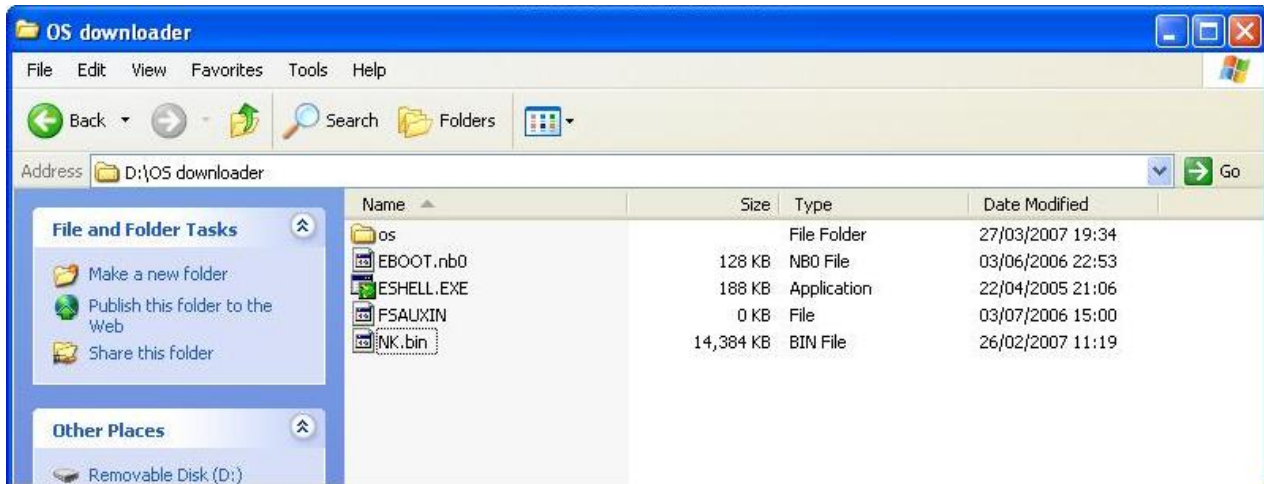
COM1	COM3	COM5	LAN
COM0	COM2	COM4	COM6

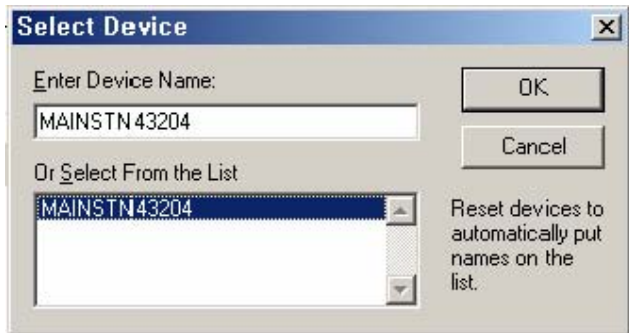
※ COM0 ~ COM2 : CPU Internal SERIAL ※ COM3 ~ COM6 : Extended SERIAL (ST16C654, 64byte FIFO)

- Ⓐ COM0 : SPR
 - Ⓑ COM1 : MCU
 - Ⓒ COM2 : EPP
 - Ⓓ COM3 : Reserved (Full Function UART)
 - Ⓔ COM4 : Reserved (Full Function UART)
 - Ⓕ COM5 : CDU
 - Ⓖ COM6 : Debug Port
- e. Get into main screen of Boot-Loader by pressing spacebar.
 f. (6)download image & save (9)Enabled to be toggled as the menu is toggle format.

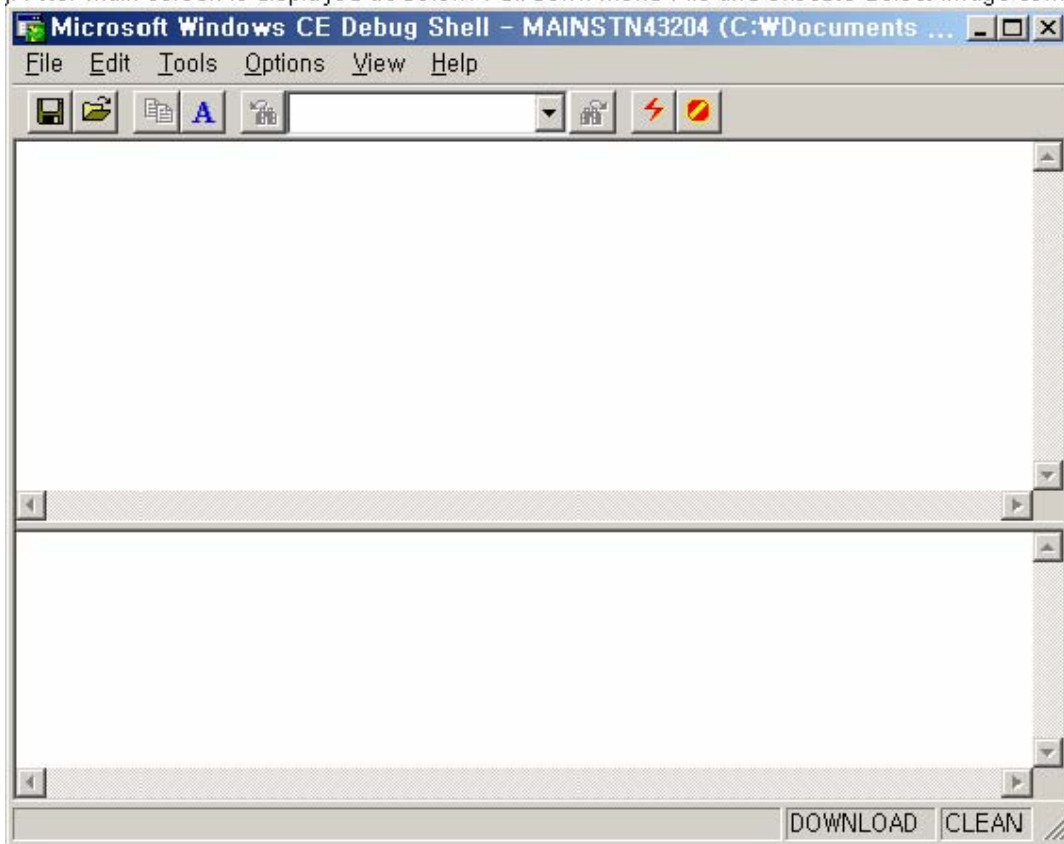


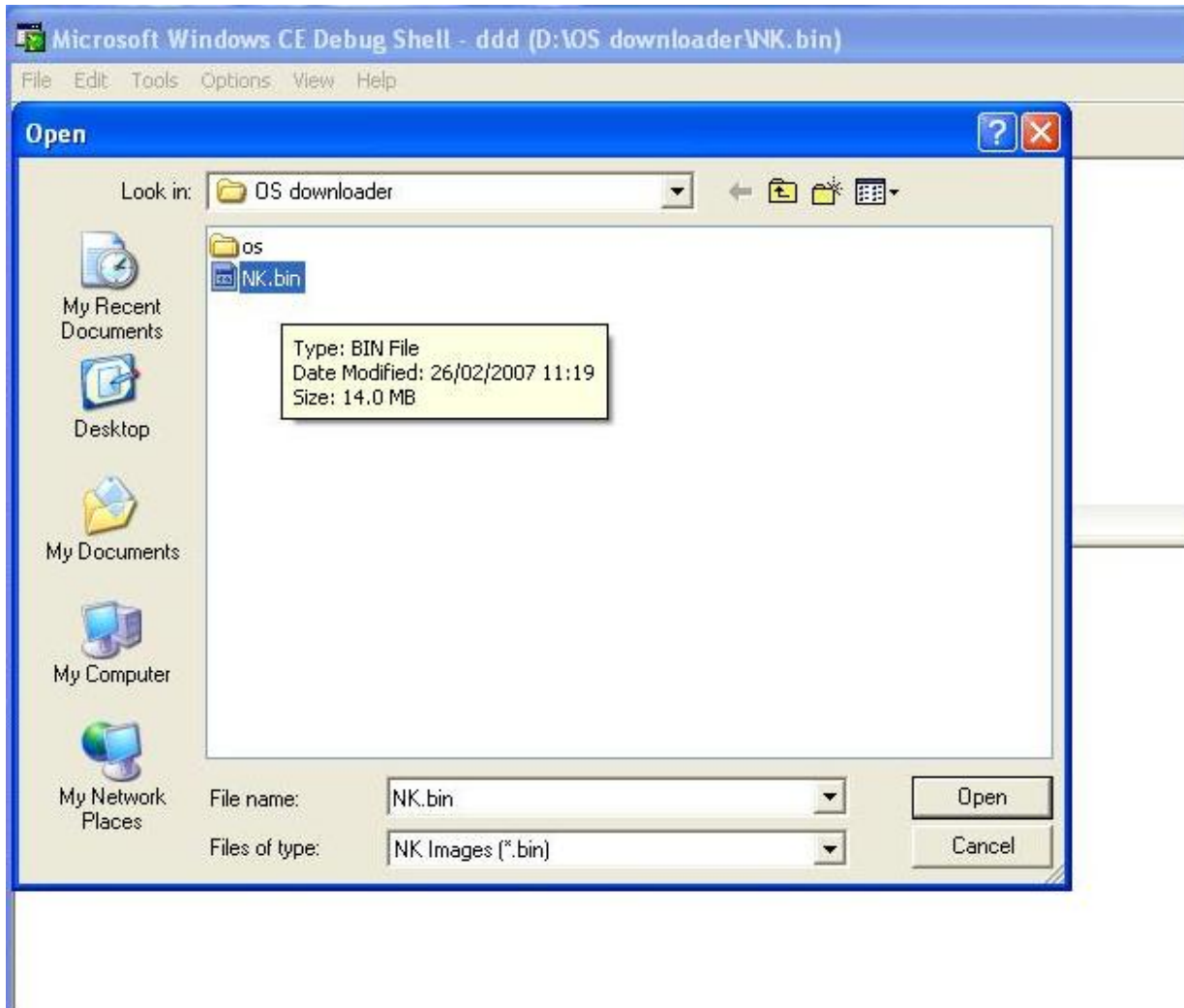
- g. Open Nexfield folder and copy NK.bin file to the folder (File name can be any but extension should be named bin.)
- h. Execute the file ESHELL.exe.
- i. Press OK button to continue.
- l. Return to first terminal main window and enter command "D".
- m. Connect USB cable to the ATM system (If cable is not detect, plug out and in again.).





j. After main screen is displayed as below. Pull down menu File and execute Select Image command.





-> If USB cable is initially connected to the system from your PC, You need to install USB driver for newly found hardware.

- n. The completion and status of Download can be viewed in ESHELL.
- o. Once downloading is completed Window screen is displayed.
- p. Reboot the system and return to Boot-Loader menu by pressing space bar in terminal window
- q. Delete download toggle menu and Create launch in the menu.
- r. Execute "L" command for automatically Windows booting.

```

2) Boot delay: 1 seconds
3) DHCP: (Disabled)
4) Reset to factory default configuration
5) RNDIS MAC address: 0-2-B3-92-A8-C4
6) Launch existing flash resident image at startup
7) Boot device order: USB -> SMSC
8) Debug serial port: EXTUART
9) Program RAM image into FLASH: (Enabled)
D) Download image now
F) Format Flash
L) Launch existing flash resident image now
M) Memory test
U) Boot to ULDR: (No)

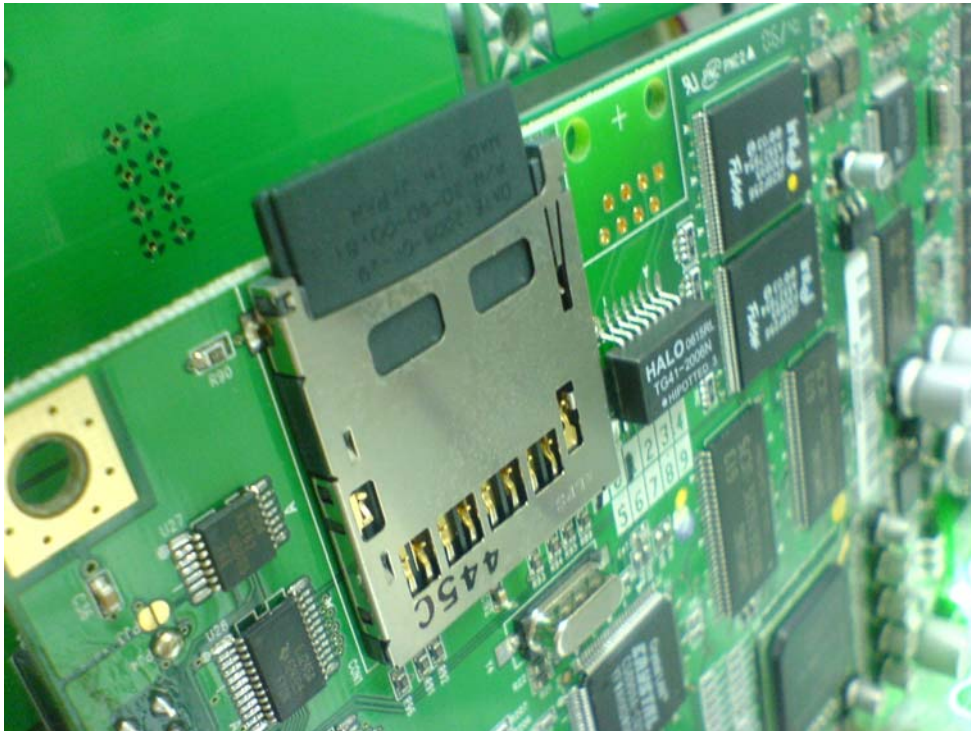
Enter your selection: 1
INFO: FlashErase: erasing flash BAA40000 to BAA7FFFF. Please wait...
-
INFO: FlashWrite: writing to flash...

INFO: FlashWrite: verifying the data written to flash...
INFO: FlashWrite: flash programmed successfully!
Loading RAM image from flash (Flash=0xBAC00000 RAM=0xA0100000
Length=0x2000000).

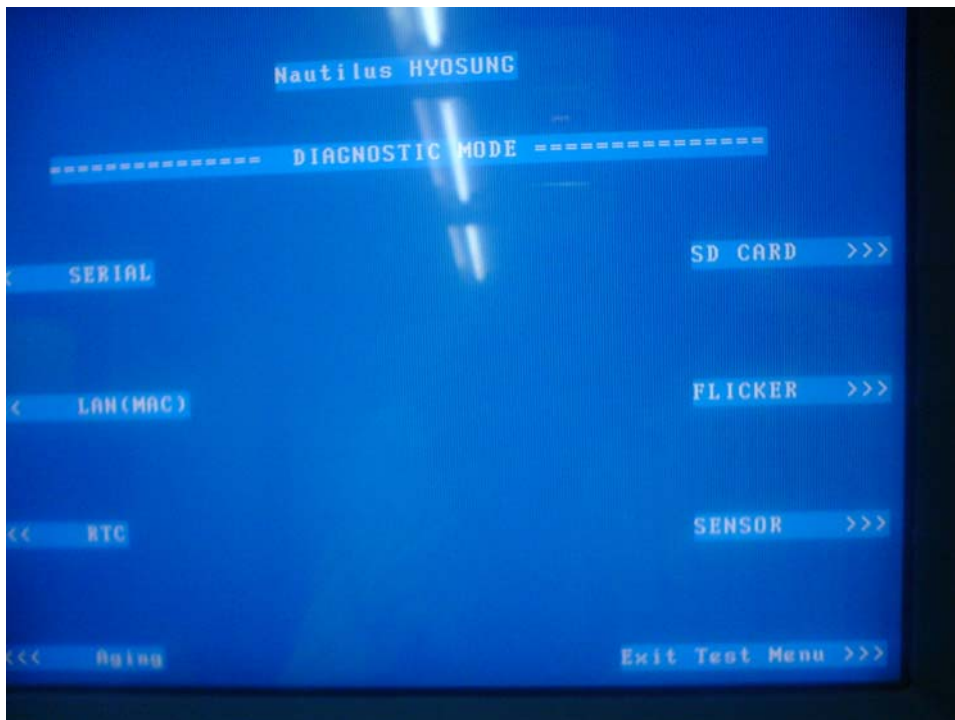
```

6.10.1.3 OS Image Download (In Case of Upgrade using SD memory card)

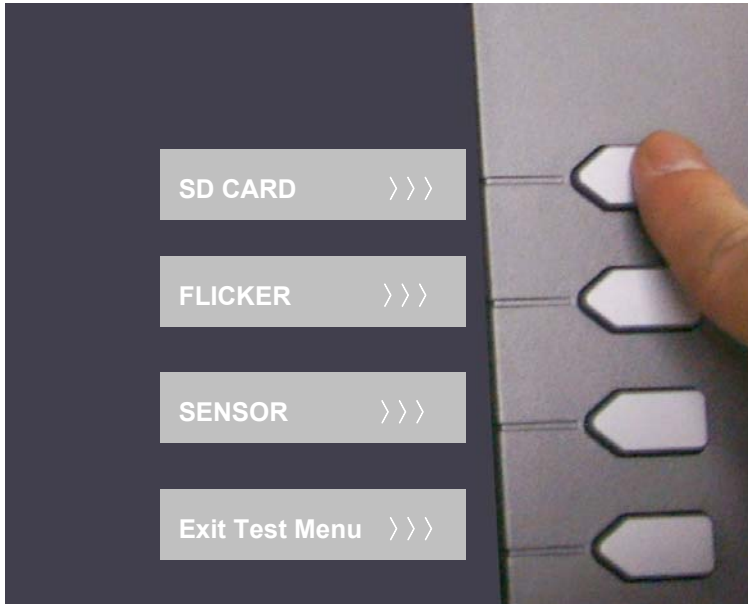
- a) Put nh270nk.bin file into root directory of SD memory card.
- b) Put SD memory card into SD memory card slot on the main panel.



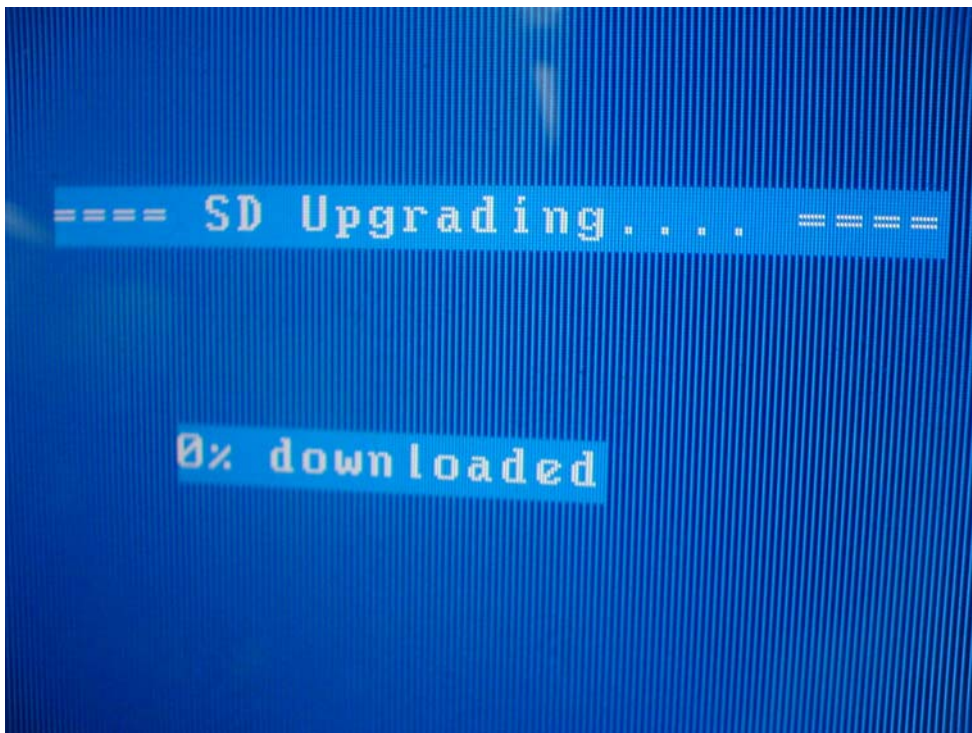
- c) Power on ATM machine.
- d) Push two buttons on the left-bottom side.

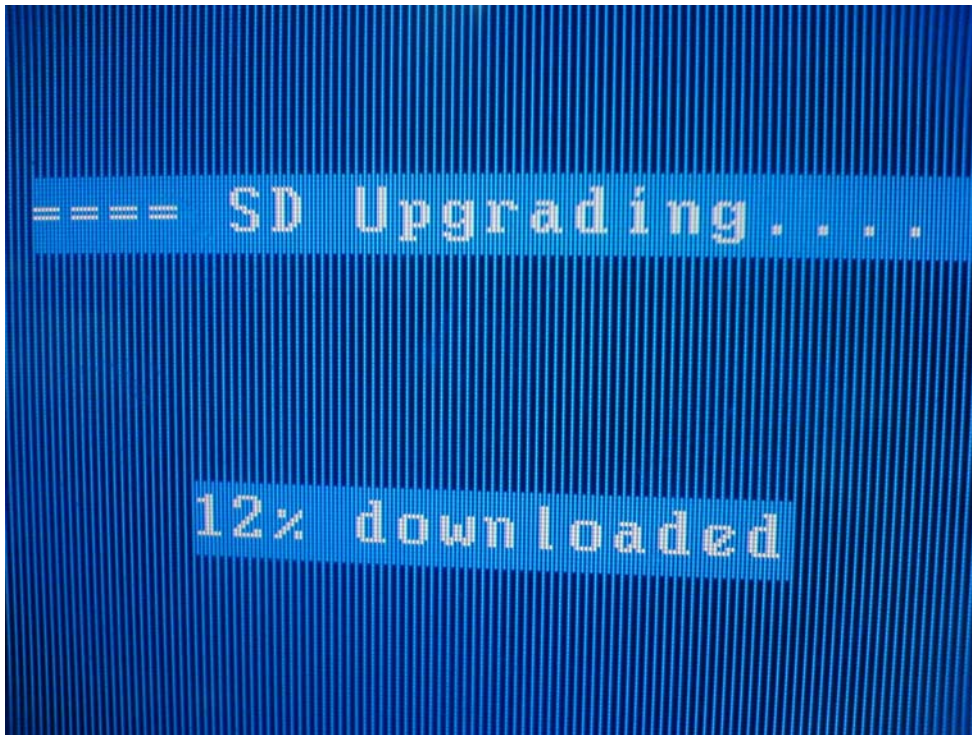


e) Choose SD update menu.

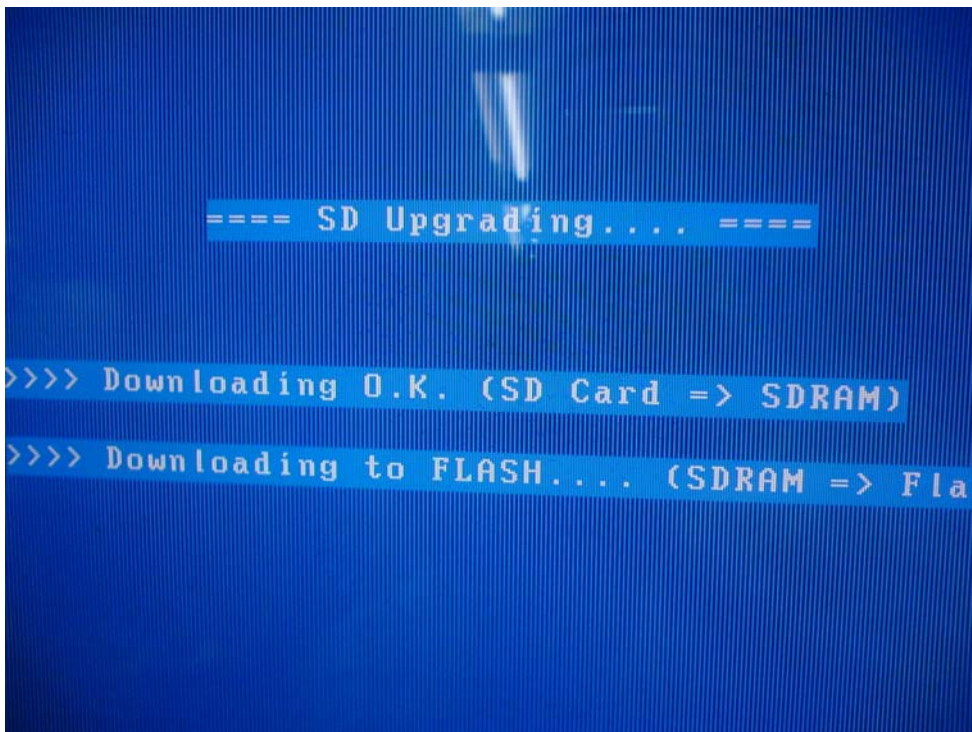


f) Automatically, os is upgrading.





g) After succeed, reboot ATM machine.



6.10.2. Application Software Installation Process Manually

6.10.2.1 When would manual install be used. General

If necessary to upgrade application file from USB memory stick, in case of flash memory failed to be read or system boot image was reloaded, following process is required.

6.10.2.2 What to prepare

Mouse 1 Each Master USB memory stick. (Recognized up to 2GB) Windows CE ATM Software Installation Manual

6.10.2.3 Software Installation Subject

- 1) USB Memory Connection
- 2) Automatic Execution
- 3) USB Memory Recognition
- 4) Manual Execution Formatting
- 5) Manual Execution AP Copy
- 6) Manual Execution NVRAM clear
- 7) Manual Execution Sound test
- 8) Manual Execution Ping test
- 9) Summary

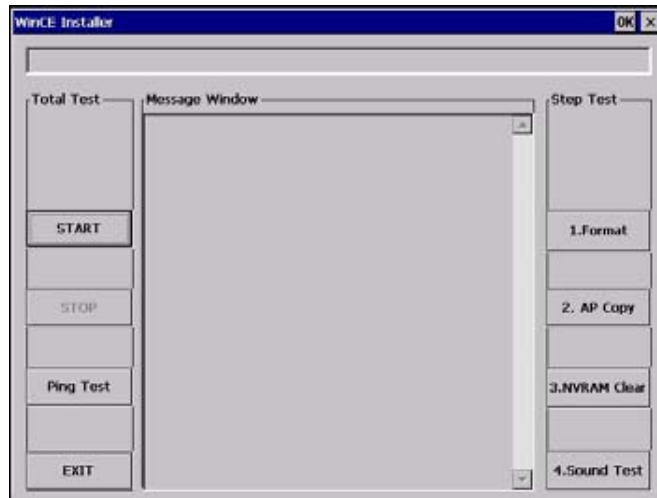
6.10.2.4 Installation Flow

1) USB memory Connection

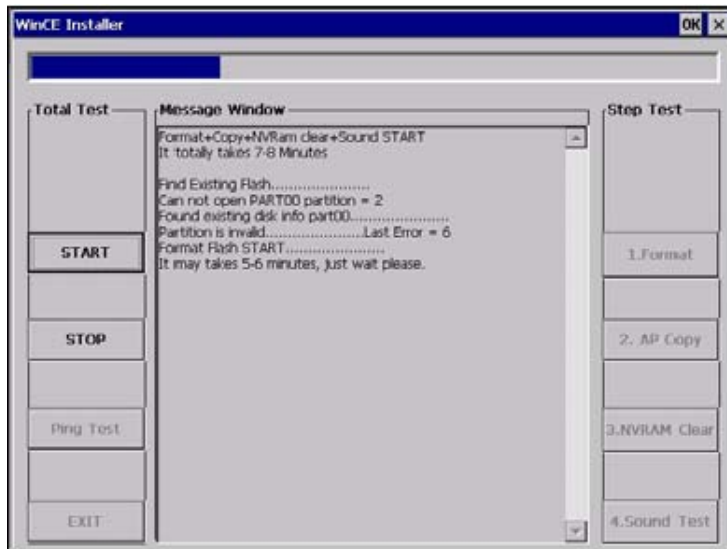
-Plug in USB memory stick into USB slot when Windows Screen is displayed after power on. -If Windows operating system recognizes USB memory inner 15 seconds, installation is started automatically.

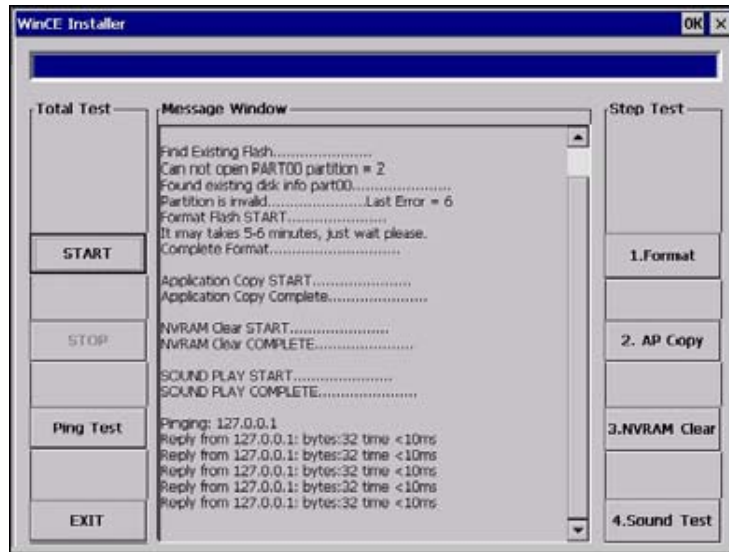
2) Automatic Execution

-Next diagram picture is automatically executed installation start menu.



- There are two ways to start installation from this screen.
 - a. Press left function key button beside of "START" button
 - b. Or move mouse cursor over the button to start installation.
 - c. Total installation duration is about 7~8 minutes and below screen is displayed after completion.
 - d. After completion of installation, all processes are done and operator needs to reboot the system to start updated application.

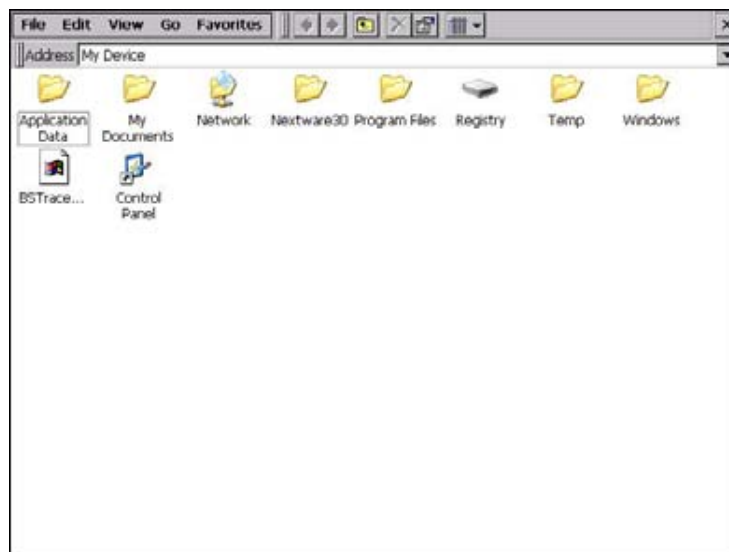


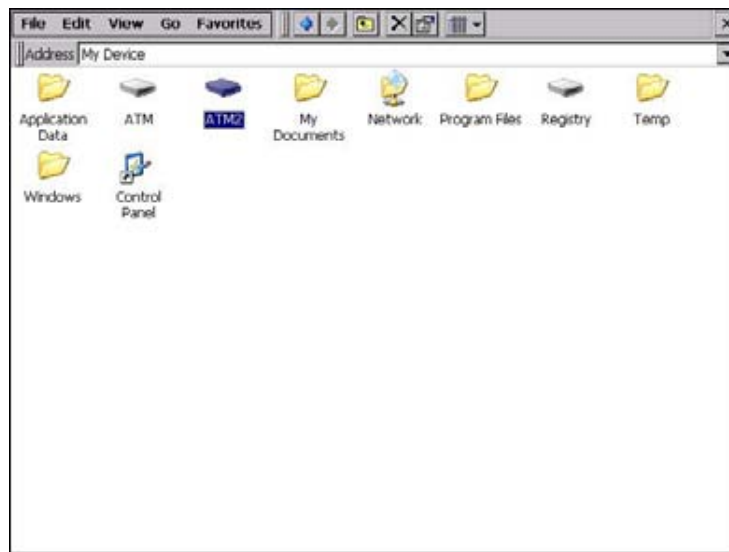
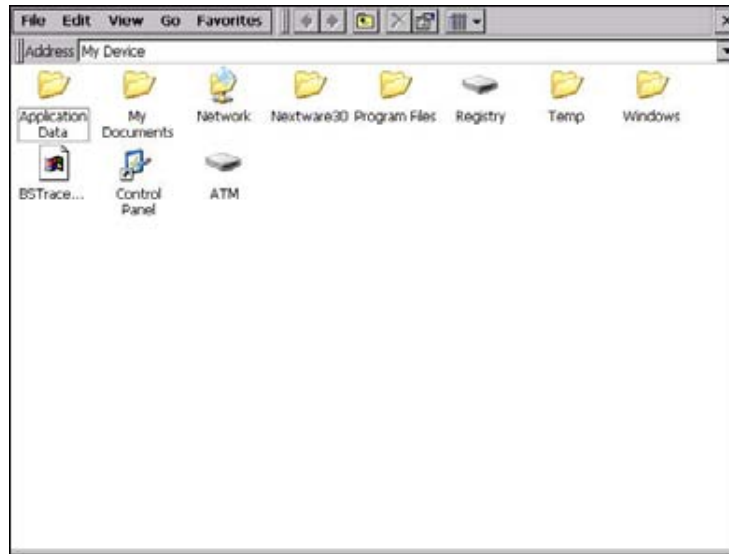


* If installation fails on any steps, operator must follow next steps to recover. (* 1.Format -> 2. AP Copy -> 3.NVRam Clear-> 4.Sound Test -> Ping Test)

3) Manual Execution (Mouse connection is required)

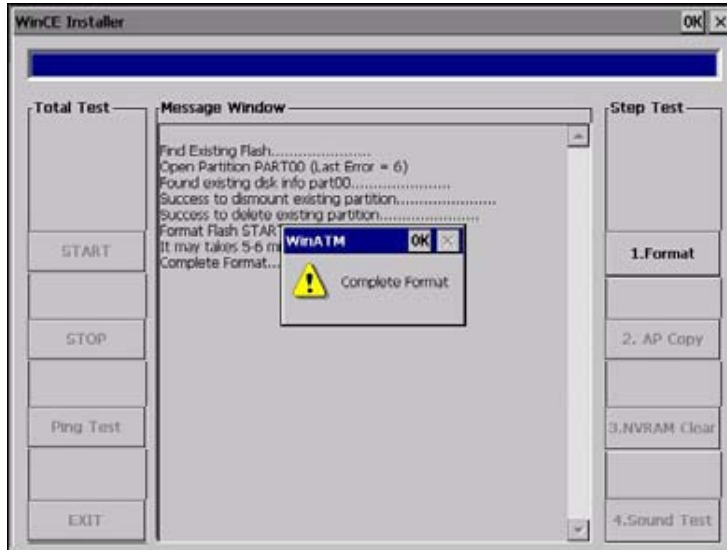
- a. Next screen is a picture containing several folders before USB memory stick is recognized.
- b. This screen is my folder structure picture after USB memory stick.
- c. This screen is after formatting
(You will see there is ATM2 memory area is created.)





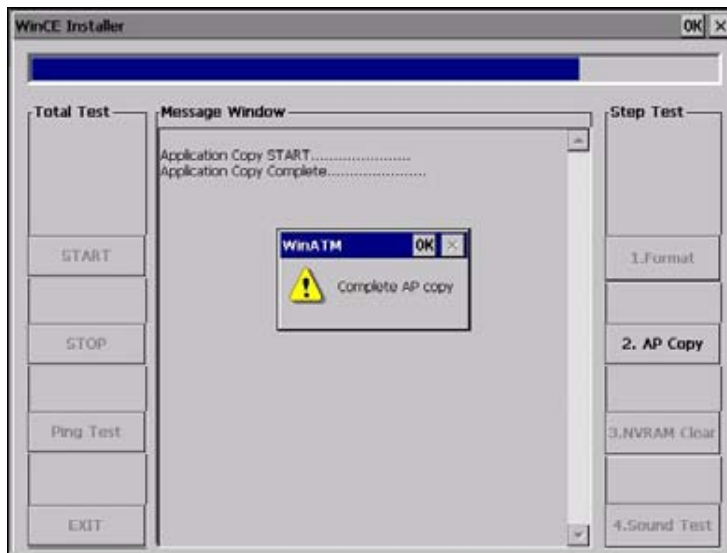
4) Manual Execution : Formatting

- By pressing “1.Format” button, it will start formatting flash memory.



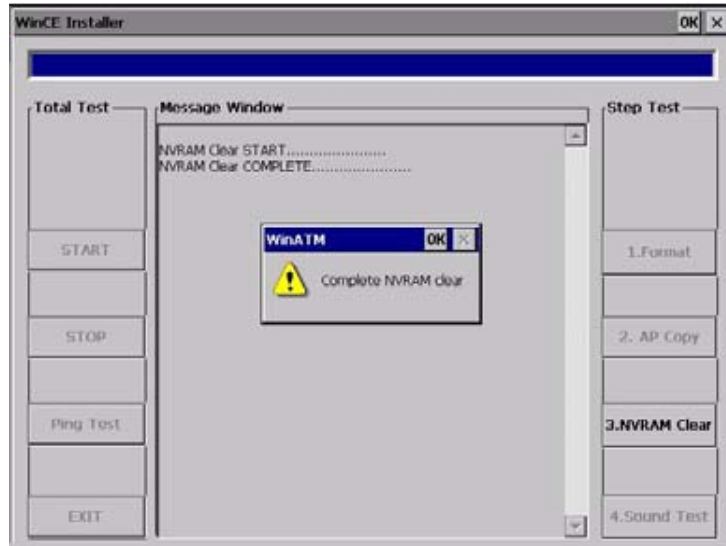
5) Manual Execution: AP copy

- The next step is executing application copying with “2.AP Copy” button.



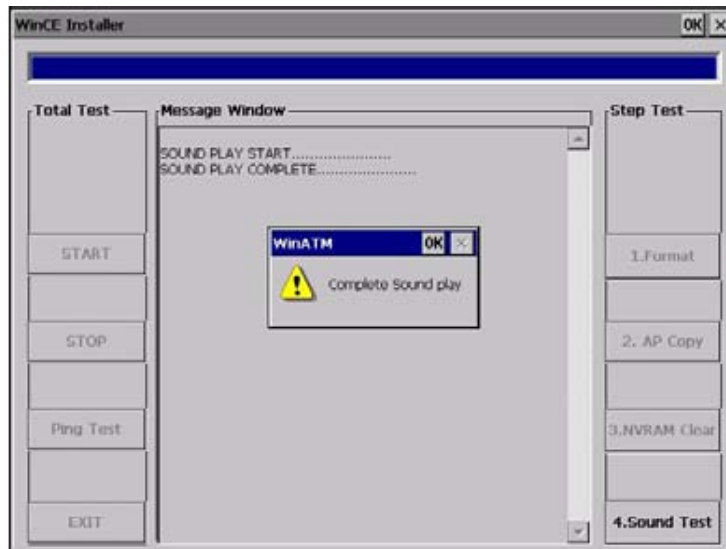
6) Manual Execution: NVRAM Clear

- NVRAM clear is executed by pressing "3.NVRAM Clear" button for clearing data.



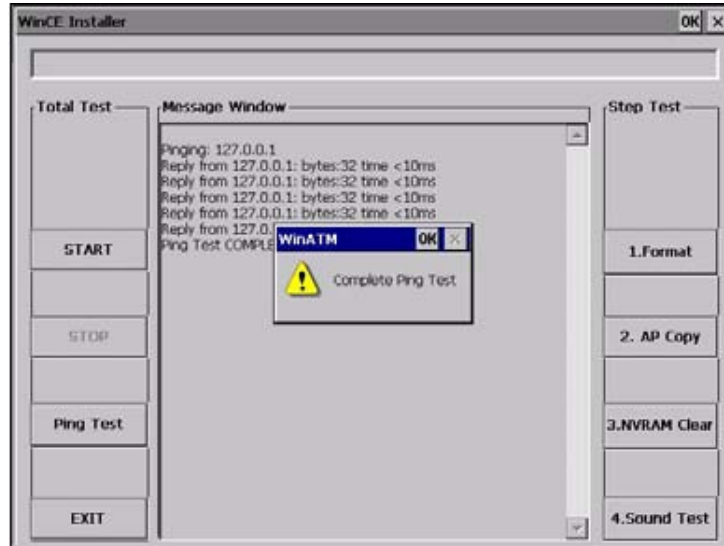
7) Manual Execution: Sound Test

- Sound Test is required to test whether current image is making sound.



8) Manual Execution: Ping Test

- Followed Ping Test to check LAN card connectivity.



*** After all installation processes, operator needs to restart ATM.**

9) Summary

Following information explains how software installation works:

1. Windows CE Operating System's start up program will search file "WinATM.exe" under folder "ATM" after power on and execute automatically.
2. However, if initial boot image and Windows CE system files are loaded, there is no application file existed. Therefore, even if start up program search file inside of "ATM" folder, there is no change after booting.
3. At this time, if USB memory stick is connected and USB memory stick is recognized as "ATM" folder. Instead of system "ATM" folder, startup program will try to find "WinATM.exe" file from USB memory stick's "ATM" folder and execute.
4. When formatting memory, USB memory stick is set as "ATM" and flash disk is named as "ATM2" (Windows CE OS is recognizing the first media as "ATM" and the following recognized media as "ATM2".)
5. AP Copy process is copying files from AP folder of USB memory stick to "ATM2" folder which is flash memory area.
6. After copying all files and removing USB memory stick from the slot, it will restart the system and the first recognized folder previously named "ATM2" will be "ATM".
7. After all, startup program will find "WinATM.exe" file and execute for ATM running..

6.10.3. Application Software Downloading from Supervisor Menu

- After C procedure is done, you are able to enter Supervisor menu and ATM is ready to run.
- Normally on supervisor menu, you are able to upgrade software application files using RCopy menu.

Chapter 7. Appendix

7. Appendix

A. SUMMARY OF SPECIFICATION

Item		Specification	Remarks (Option)	
Main Controller	CPU	X-Scale PXA270 520MHz		
	Memory	SDRAM	64 MB	
		Flash Memory	64 MB	128 MB Option
		NV-RAM	512 KB	
	Operating System		Windows CE	
	Serial Ports		7 Ports	2Ports Full Spec Rs-232C
	USB Ports		2 Ports	1 Host, 1 Client
	MODEM		N/A	Slot type option
	LAN		TCP/IP	On-Boarded
Customer Operation	LCD Type		8" TFT Color (800X600)	
	Pin-Pad		Metal Key Cap EPP	T-DES, VISA Certified
	Function Key		4X2	NDC
	Flicker		4 EA (High Bright LED)	MCU, EPP, CDU, SPR
Cash Dispenser	Number of cassettes		1 Cassette	2 Cassette Option
	Denomination		NZ \$20	Polymer Note
	Maximum Dispense		40 Notes/1transaction	-
	Cassette Capacity		2,000 Capacity (Based on new Bill)	Up to 3 Cassette
	Reject Type		Note by Note Reject (200 bills Max)	Reject BIN
Card Reader	Type		DIP Type	NH DIP MCU
	Magnetic Stripe		ISO 1, 2 Read	
	IC Card		Available / EMV Level-1 Ready	
Receipt Printer	Printing Type		3" Thermal Line Printing	-
	Printing speed		100mm/sec	-
	Paper Specification	Type	Thermal Roll Paper	
		Width	Max. 80mm	-
		Outer Diameter	Max. 180Φ	-
	Paper Setting Method		Semi-Automatic	-
Journal	Electronic Journal		USB Dump Function	
Safety	Specification		UL Business-Hour Safety	
	Locking device		Electric Lock	Dial Lock Option

Additional function	Audio guidance		Support	Speaker
	ADA Audio guidance		Option	
	Topper		Advertising Panel	
Dimension & Environment	Dimension (WXDXH)		410 X 580 X 1,300	Foot Print : 400(W) X 500(D)
	Access Type		Front Access	
	Installation		Anchor Bolt	16mm
	Weight		115 kg	-
	Main Power		110~220VAC	100W Power
			Harmonic Filter	EHC-45405A:240Vac 0.8A
	Operational Temperature	Operating	5°C ~ 35°C	-
		Storage	0°C ~ 40°C	-
	Operational Humidity	Operating	25% ~ 85%	-

B. BILL CONDITIONS

B.1 Acceptable condition

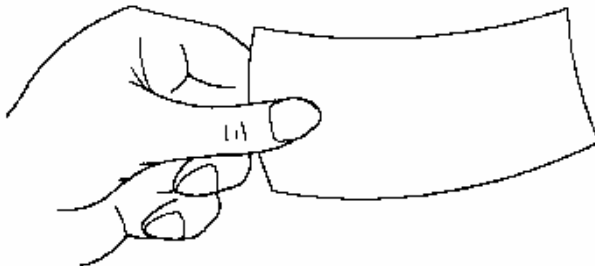
- Bill which is very clean and can readily be recognized as a true bill



- Bill that has sufficient life or sizing to be handled easily

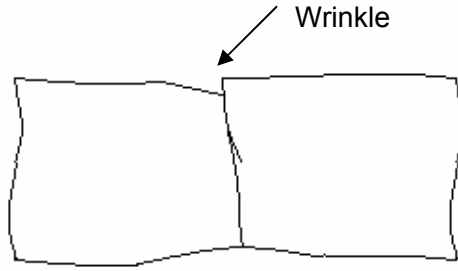


- Bill which can be manually held straightly when one end is held by a hand and the bill is slightly curved vertically

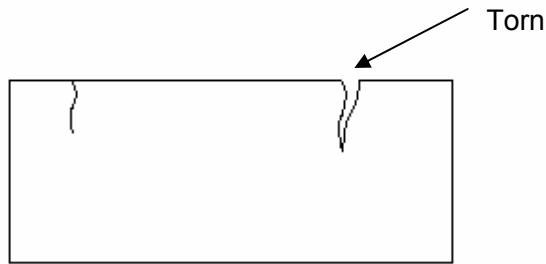


B.2 Unacceptable condition

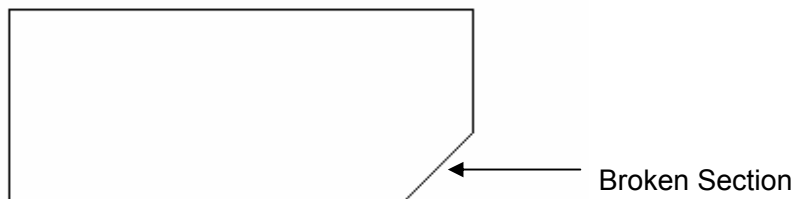
- Bill having serious wrinkles, torn or broken section wherein paper fiber is broken and separation begins
 - ✓ Wrinkle



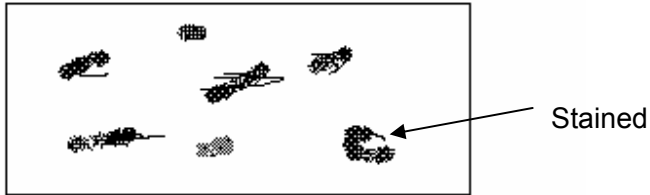
- ✓ Torn



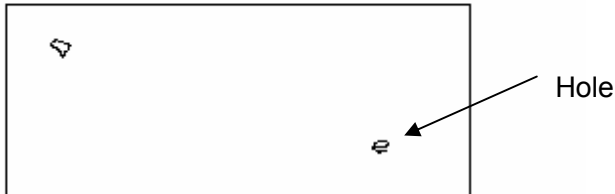
- ✓ Broken section



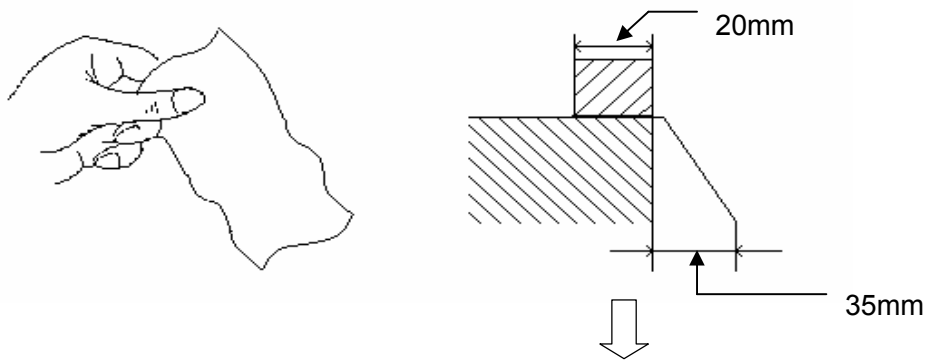
Bill having adequate life or sizing, but stained seriously



- Bill with holes (Perforated bill)

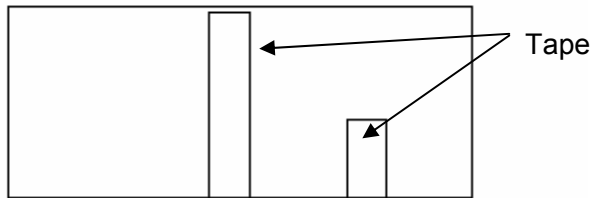


- Bill ragged and cannot be held straightly when one end is supported by a hand

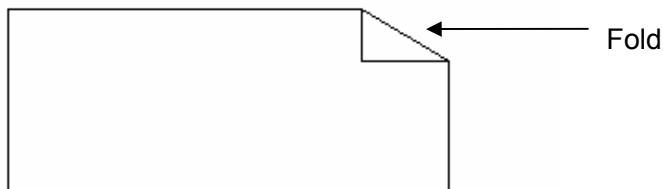


When the bill is held by 20mm and the straightness of the bill is 35mm or less, it cannot be used

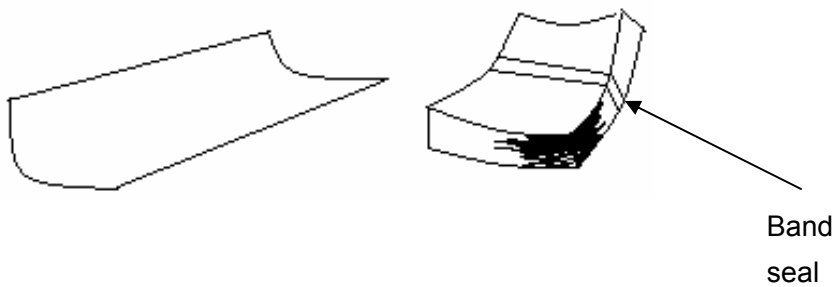
- Bill with cellophane tape, scotch tape, etc



- Bill with folds

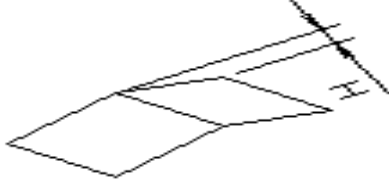


- Gradually curved bill (bills tied by hand seal, etc)



- Bill with folded lines

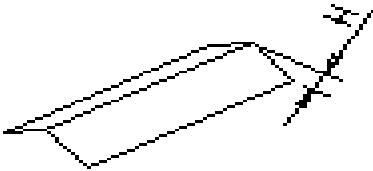
- ✓ Case 1



- ✓ Case 2



- ✓ Case 3



☞ Bill distortion should not exceed 10 mm

C. RECEIPT PAPER SPECIFICATIONS

C.1 Applicable Product

This purchase specification applies to the receipt paper of 5050.

C.2 Specification

- 1) Paper type: Thermal roll paper
- 2) Print color: Black

C.3 Specification of the Receipt Paper

- 1) Paper type: Thermal roll paper
- 2) Print color: Black
- 3) Specification: Paper detects heat.
- 4) Paper basis weight : $55 \pm 3 \text{ g/m}^2$
- 5) Paper thickness : $58 \pm 4 \text{ }\mu\text{m}$

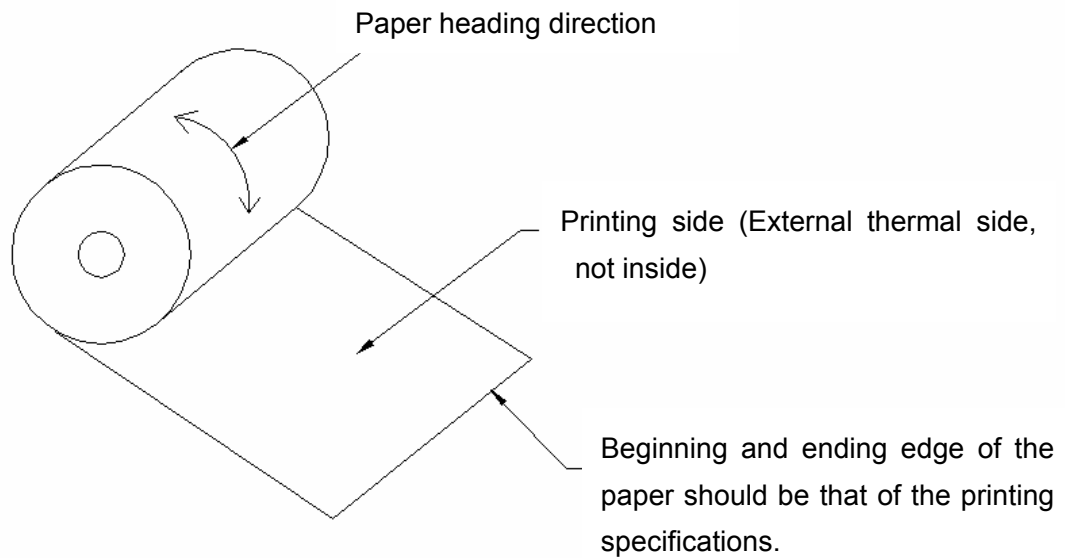
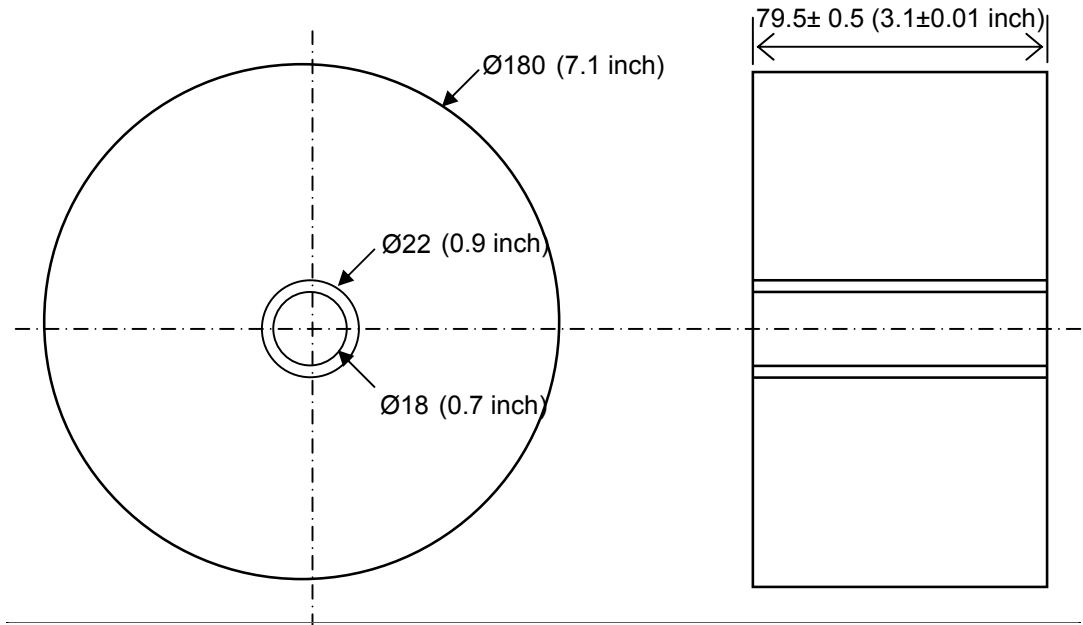


Fig. 7.1 Receipt Paper Specifications

C.4 Roll appearance



- All measurements are in mm.

Fig. 7.2 External roll dimension

- Note 1) Store the paper roll separately to prevent damage to the paper.
- Note 2) Do not connect the papers with tape.
- Note 3) Make sure the paper end is not attached to the paper pipe.
- Note 4) Make sure the paper is rolled evenly.

C.5 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°C 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) 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.

C.2.3 Specification:

D. MAGNETIC CARD SPECIFICATIONS

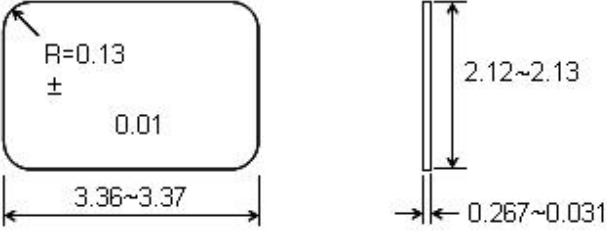

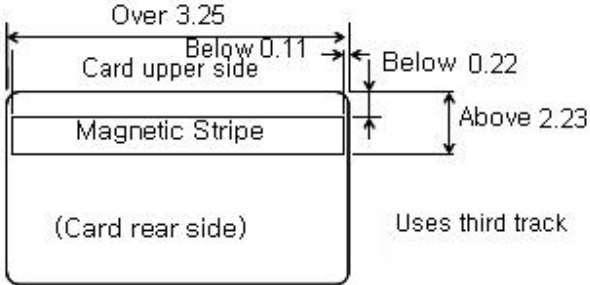
Item	ISO Card (Unit : Inch)
Length	 <p>Diagram showing ISO card dimensions: Length is 2.12~2.13 inches, width is 0.267~0.031 inches. The card has rounded corners with a radius R=0.13 ± 0.01 inches.</p>
Card Bending	 <p>Diagram showing card bending specification: Below 0.079 inches.</p>
Magnetic Stripe Position	 <p>Diagram showing magnetic stripe position on the rear side of the card. Specifications include: Over 3.25 inches for the upper side, Below 0.11 inches for the stripe width, Below 0.22 inches for the stripe height, and Above 2.23 inches for the stripe position. It also notes 'Uses third track'.</p>

Fig. 7. 3 Magnetic Card Specifications

E. ERROR CODE TABLE

E.1 Receipt Printer

Error Code	Description	Trouble shooting
1106910	LOST SLIP", DEV_SPR	
2001000	Receipt paper jam	Remove any jammed paper from the printer.
2001200	Receipt printer feed plate open	Close the feed plate.
2001300	Out of receipt (Receipt paper empty)	Replenish the receipt paper.
2001400	Receipt printer head overheated before printing	Check the printer head and change if necessary.
2010100	Receipt printer lever opened	Close the lever of print head completely
2010200	Receipt printer head overheated	Wait the time until the temperature of head adequately slow down and try to initialize
2010300	Receipt paper jam	Remove jammed paper between printer head and rollers
2010400	Receipt paper empty	1. Replenish receipt paper 2. Check the status of sensor and its connector
2010500	Receipt paper setting error	1. Check the status of setting paper 2. Check the status of sensor and its connector
2010600	Command is received while doing self-test	After terminating self-test and initialize receipt printer
2010700	No receipt paper	1. Replenish receipt paper in paper charger 2. Check the status of Near End sensor and its connector
2010800	Receipt paper cutting error	1. Check the Cutter module 2. Check if printer head lever is properly close
2010900	No sensing black mark (dark sensor)	1. Check the status of Black mark sensor 2. Check if Dip switch # 6 is correctly set (Dip switch # 6 is set by On in case of not using Black mark)
2010A00	The size of image print data is abnormal	Check the AP version and initialize
2080100	Receipt printer lever opened	Close the lever of print head completely

Error Code	Description	Trouble shooting
2080200	Receipt printer head overheated	Wait the time until the temperature of head adequately slow down and try to initialize
2080300	Receipt paper jam	Remove jammed paper between printer head and rollers
2080400	Receipt paper empty	1. Replenish receipt paper 2. Check the status of sensor and its connector
2080500	Receipt paper setting error	1. Check the status of setting paper 2. Check the status of sensor and its connector
2080600	Command is received while doing self-test	After terminating self-test and initialize receipt printer
2080700	No receipt paper	1. Replenish receipt paper in paper charger 2. Check the status of Near End sensor and its connector
2080800	Receipt paper cutting error	1. Check the Cutter module 2. Check if printer head lever is properly close
2080900	No sensing black mark (dark sensor)	1. Check the status of Black mark sensor 2. Check if Dip switch # 6 is correctly set (Dip switch # 6 is set by On in case of not using Black mark)
2080A00	The size of image print data is abnormal	Check the AP version and initialize
9720000	Receipt printer communication error during SP opening	Check if communication cable or COM port is not connected
9722010	Receipt Printer communication failure during COM port open	1. Do RESET at Operator Function 2. Reboot ATM
9722DN0	Receipt Printer communication failure during sending command to Receipt Printer	1. Do RESET at Operator Function 2. Reboot ATM
97912XX	DEV_SPR Time Over Error	1. Reboot ATM 2. Call your attendant
97922XX	DEV_SPR FATALERROR (WARNING)	1. Reboot ATM 2. Call your attendant
A010100	Detecting the lever opened before executing command	Close the feed lever.
A010200	Printer thermal head overheated while executing command	Check the thermal printer head and change if necessary.
A010300	Paper jam detected before executing command	Remove any jammed paper from the printer.
A010400	Paper setting error detected before executing command	Remove and re-install the receipt paper.
A010500	Paper check error detected before executing command	Remove and re-install the receipt paper.

Error Code	Description	Trouble shooting
A010800	Paper cutter software check error detected before executing command	Check for and remove any jammed paper.
A080100	Open lever detected while executing command	Remove any jammed paper.
A080200	Receipt printer head overheated while printing	Check the thermal printer head and change if necessary.
A080300	Paper jam detected while executing command	Remove and re-install the receipt paper.
A080400	Paper setting error detected before executing command	Remove and re-install the receipt paper.
A080500	Paper check error in doing command	Remove any jammed paper.
A080800	Paper cutter software check error detected while executing command	Check for and remove any jammed paper.
ADN0100	No response detected for 30 seconds after sending command	Check cable and connection between the CE and printer.
ADN0F00	No response detected for 30 seconds after sending command	Check cable and connection between the CE and printer.
ADN1100	No response detected after 3 retries	Check cable and connection between the CE and printer.
ADN1200	No response detected between ENQ-ACK after 5 retries of ENQ	Check the cable and connection between the CE and printer.
ADN1300	No response detected after 5 retries because of timeout between STX-BCC interval	Check cable and connection between the CE and printer.

E.2 Card Reader

Error Code	Description	Trouble shooting
8217091	Card in card reader	Remove card
1101910	LOST CARD", DEV_MCU	
9723010	Failed to open device	Check the serial port or cable
9723016	Time out to receive data	Check the serial port or cable
9723019	Polling down	Check the serial port or cable
9730100	IC CARD DENIAL	
9730200	IC CARD ONLINE DATA ERROR	
9730300	IC CARD ERROR	
97913XX	DEV_MCU Timeover Error Code	1. Reboot ATM 2. Call your attendant
97923XX	DEV_MCU FATALERROR (WARNING)	1. Reboot ATM 2. Call your attendant
9799301	MCU RETRACT OVER	Clear the count of retracted card at OP mode

E.3 Journal Printer

Error Code	Description	Trouble shooting
9721111	Off line status	1. Check communication cable connected properly 2. Check power cable connected properly
9721112	On busy	1. Check printer's working status
9721121	Mechanics Error	1. Recover printer's mechanical Error 2. Reboot ATM
9721122	Recoverable Error	1. Recover printer's Error 2. Reboot ATM
9721123	Unrecoverable Error	1. Reboot ATM
9721124	Paper jammed	1. Remove jammed paper
97911XX	DEV_JPR Timeover Error Code	1. Reboot ATM 2. Call your attendant
97921XX	DEV_JPR FATALERROR (WARNING)	1. Reboot ATM 2. Call your attendant

E.4 Cash Dispenser

Error Code	Description	Trouble shooting
1102910	LOST WITHDRAW CASH", DEV_CSH	
1102920	LOST DEPOSIT CASH", DEV_CSH	
1103910	LOST CARD & SLIP", DEV_MCU DEV_SPR	
2000100	No cassette	Insert or re-insert the cassette(s). Check cassette sensor.
2000200	Note shortage	Replenish the cassette.
2000300	Reject bin full	Remove notes from the reject bin and try the Cassette Total function again.
2000500	Cash Dispenser Unit data setting error	Check Cash Dispenser Unit information. (Currency, Denomination, etc)
2001600	Note detected in stacker (shutter or presenter type)	Clear any notes from the stacker.
2021500	Sensor detects note in delivery path before CDU dispenses	Remove note from the CDU delivery path.
2131500	CS4 sensor detects note in delivery path before CDU dispenses. Sensor is located along the delivery path right before the reject bin.	Remove note from the CDU delivery path.
21A1500	CS1A sensor detects note in delivery path before CDU dispenses. Sensor is located along the delivery path right after where the note exits the 1st cassette.	Remove note from the CDU delivery path.
21B1500	CSB sensor detects note in delivery path before CDU dispenses. Sensor is located along the delivery path right after where the note exits the 1st cassette.	Remove note from the CDU delivery path.
24A1500	CS3A sensor detects note in delivery path before CDU dispenses. Sensor is located along the delivery path right after where the note exits the 3rd cassette.	Remove note from the CDU delivery path.
24B1500	CS3B sensor detects note in delivery path before CDU dispenses. Sensor is located along the delivery path right after where the note exits the 3rd cassette.	Remove note from the CDU delivery path.
4000000	Cash Dispenser(CDU) received the undefined command from AP software	1. Get the trace file and log files in D:\trace2. Call your attendant

Error Code	Description	Trouble shooting
4001100	Detecting CS2 Dark (Front Access Type:Reject box is opened.)	1. Remove notes on CS2 sensor 2. Clean CS2
4001400	CS4A sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS4A
4001500	CS2 or CS4A sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS2 and CS4A
4001800	CS4B sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS4B
4001900	CS2 or CS4B sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS2 and CS4B
4001C00	CS4A or CS4B sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS4A and CS4B
4001D00	CS2, CS4A or CS4B sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS2, CS4A and CS4B
4002100	CS1A sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS1A
4002200	CS1B sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS1B
4002300	CS1A or CS1B sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS1A and CS1B
4002800	CS13 sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS13
4002900	CS1A or CS13 sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS1A and CS13
4002A00	CS1B or CS13 sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS1B and CS13

Error Code	Description	Trouble shooting
4002B00	CS1A, CS1B or CS13 sensor detects note in delivery path before/after CDU dispenses	1. Remove note from the CDU delivery path.2. Clean CS1A, CS1B and CS13
4003000	Failed in checking the main motor echo	1. Initialize 2. Check Main Motor Encoder Slit 3. Initialize after Power On/Off 4. Check Encoder Sensor CS8 BRKT 5. Check CS8 Sensor Cable 6. Change Main Motor Encoder Slit Sensor CS8
4003100	Failed in checking the reject gate solenoid echo	
4003200	Failed in checking the present gate solenoid echo	
4003300	Check sum error (No information is set)	1. Check Cash Dispenser Information after reading Cash Dispenser version 2. Initialize 3. Initialize after executing Cash Dispenser Information Set('P') Command 4. Change Cash Dispenser B/D
4003400	Error of two sheets detecting sensor(CS5_1) for initializing	1. Check CS5_1 Sensor Cable 2. Check second Dip Switch in Cash Dispenser B/D 3. Change CS5_1 Sensor
4003600	Error of CS 2, CS13 sensor during initialization	
4003700	Error of 2 sheets detecting sensor (CS5_1 / CS5_2) for dispensing	1. Check Cash Dispenser Board Segment 2. Initialize 3. Read data of 'Read Double Sensor' Command
4003800	Error in checking SRAM	
4003900	Gate operation sensor (CS3) error before initial recovery	1. Initialize after removing notes or dust over Gate 2. Check CS3 Sensor BKRT 3. Check CS3 Sensor Cable 4. Exchange Sensor after abnormal operating CS3 Gate detecting Sensor 5. Replace Reject Solenoid 1
4003A00	When more than 5 sheets of cash dispensing is required during a test	1. Check command that Cash Dispenser is received 2. Check Cash Dispenser EP ROM Version or specification
4003B00	When CS15A or CS 15B sensor is detected as dark after initial recovery	1. Remove notes or dust on CS15A Sensor 2. Check CS15A Sensor Cable 3. Exchange Sensor after abnormal operating CS15A Sensor

Error Code	Description	Trouble shooting
4004000	Cassette is removed during dispensing	<ol style="list-style-type: none"> 1. Check the cassette catcher 2. Set the cassette properly
4004100	Error if re-driving is over 5 times during separated rejection	<ol style="list-style-type: none"> 1. Check notes in Reject Box 2. Rearrange notes in Cassette 3. Remove dust in CS15AB, CS31AB, CS41AB CS1AB Sensor 4. Check dust existing in CS5 Sensor Guide 5. Check dust existing in Main Motor Encoder Slit 6. Check index value of notes each cassette
4004200	In case the number of notes detected outlet sensor(CS13) is less than the number of required notes	<ol style="list-style-type: none"> 1. Check notes dispensed and rejected 2. Remove notes jammed in CDU 3. Remove dust in CS13 Sensor 4. Exchange sensor after abnormal operating CS13 Sensor
4004300	Error if total reject is more than 20 sheets	<ol style="list-style-type: none"> 1. Check notes in Reject Box 2. Rearrange notes in Cassette 3. Remove dust in CS1AB, CS15AB, CS31AB, CS41AB Sensor 4. Check dust in existence CS5 Sensor Guide 5. Check notes index value
4004400	Error if continuous 5 times are rejected	<ol style="list-style-type: none"> 1. Check notes in Reject Box 2. Rearrange notes in Cassette 3. Check dust in Main Motor Encoder Slit 4. Remove dust in CS15AB, CS31AB, CS1AB Sensor 5. Exchange CS8 Encoder Slit Sensor
4004500	In case the number of notes detected outlet sensor(CS13) is more than required notes	<ol style="list-style-type: none"> 1. Check notes dispensed and rejected 2. Remove dust in CS13 Sensor 3. Exchange sensor after abnormal operating CS13 Sensor
4004600	Program error(Separated rejection)	<ol style="list-style-type: none"> 1. Initialize after Reset Power 2. Upgrade Cash Dispenser Firmware or re-download 3. Exchange Cash Dispenser B/D
4004700	1 cassette mis-feed error (Separated rejection)	<ol style="list-style-type: none"> 1. Check notes in 1 Cassette 2. Check Sensor(CS6) Poll 3. Check jam in 1 cassette and reload 4. Remove dust in CS1A, CS1B Sensor 5. Exchange 1 cassette box when there are many error
4004800	Error if the number of dispensed notes is not matched to the requested	<ol style="list-style-type: none"> 1. Check CS13 sensor (note jam and dust) 2. Replace CS13 sensor
4004900	Error to dispense 0 sheets to be required (Separated rejection)	<ol style="list-style-type: none"> 1. Check received command 2. Check communication cable 3. Check Cash Dispenser Firmware Version
4004A00	Error of note jam (Separated rejection)	<ol style="list-style-type: none"> 1. Remove jammed notes on Cash Dispenser return path 2. Remove dust in CS1~CS4 sensor 3. Install after rearranging notes in cassette

Error Code	Description	Trouble shooting
4004B00	Continuous 3 times error if note is long (once tried, twice retried)=>Separated rejection	<ol style="list-style-type: none"> 1. Check state of notes in reject box 2. Rearrange notes in cassette 3. Check Index of notes 4. Check foreign objects in the main motor encoder slit 5. Replace the CS8 encoder slit sensor
4004C00	In case the number of notes detected outlet sensor(CS13) is more than that of notes detected on CS1A,B sensor	<ol style="list-style-type: none"> 1. Check CS1 sensor 2. Reconnect CS1 sensor
4004D00	Error of being removed 1st cassette before separate rejection	<ol style="list-style-type: none"> 1. Set cassette #1 correctly 2. Check the catcher inside cassette #1 guide
4004E00	Error of being removed 2nd cassette before separate rejection	<ol style="list-style-type: none"> 1. Set cassette #2 correctly 2. Check the catcher inside cassette #2 guide
4005100	Received a request for over 150 notes dispensing on the Cash Dispenser from the upper unit.	<ol style="list-style-type: none"> 1. Check the Cash Dispenser received command 2. Check the abnormal communication cable. 3. Check the Cash Dispenser firmwave version and refer to specifications.
4005200	The remaining notes at the sensor in front of the CST after dispense operation (CS1A, CS1B)	<ol style="list-style-type: none"> 1. Remove the remaining notes at a sensor in front of the CST 2. Realign notes in the cassette 3. Check abnormal clutch. 4. Check abrasion of the cassette box pick unit.
4005300	Error for the double note detection during separation.	
4005400	Cash Dispenser EP Program Error during dispense operation (failed table search)	<ol style="list-style-type: none"> 1. Initialize after resetting the power 2. Upgrade the Cash Dispenser firmware or download software again 3. Replace the Cash Dispenser B/D
4005500	Timeout due to note's length error passed through the CS13 during dispense operation	<ol style="list-style-type: none"> 1. Remove a jammed note between the tray and Cash Dispenser 2. Remove a jammed note at the position of the CS13 sensor 3. Remove a dust on the CS13 sensor
4005600	Abnormal operation of the gate solenoid during dispense operation.	<ol style="list-style-type: none"> 1. Remove a jammed note on the gate 2. Remove notes in the reject box and remount the reject box 3. Check if the CS3 sensor bracket is bended. 4. Check if the CS3 sensor cable is disconnected (CN10 #9~10) 5. Exchange a sensor after abnormal operating CS3 Gate detecting sensor. 6. Replace the reject solenoid 1
4005700	Cash dispenser configuration error	<ol style="list-style-type: none"> 1. Replace cash dispenser PCB 2. Reconfigure cash dispenser setup data
4005800	Retract box position error during command reserved operation	<ol style="list-style-type: none"> 1. Mount the retract box or open the box cover 2. Check if CS62 sensor poll is abnormal 3. Check if the CS62 sensor cable is disconnected (Cash Dispenser Board CN10 #5~2).

Error Code	Description	Trouble shooting
4005900	Initial jam time error	1. Remove jammed notes 2. Clean the sensors (CS1~CS15) in cash dispenser
4005B00	2 Cassette Miss Feed Error (Fail to reject bill separately.)	
4005D00	Continuously detected 2 notes for three times or more during dispense operation	1. Check notes' status in the reject box 2. Realign notes in the cassette 3. Check foreign objects at the position of the CS5 Sensor Guide 4. Check if the CS5 cable is disconnected (CS5_1:Cash Dispenser B/D CN10 #11~12, 25~28/ CS5_2:CN12)
4006000	Something is detected in C31AB sensor before dispensing bills from 3rd cassette.	
4006100	Something is detected in C31AB sensor before dispensing bills.	
4006200	Bills are remained in CS1AB sensor after dispensing bills.	
4006300	Bills are remained in CS31AB sensor after dispensing bills	
4006A00	CS15AB ~ CS13 Time out(Jam) during dispensing bills from second cassette.	
4006B00	Something is detected on CS31A, CS31B sensor during initialization	
4007000	Something is detected on CS41AB sensor before dispensing bills from fourth cassette.	
4007200	Something is detected on CS41AB sensor during dispensing bills.	
4007300	Bills is remained in CS41AB sensor after dispensing bills.	
4007A00	CS31AB ~ CS13 Time out (Jam) during dispensing bills from fourth cassette.	
4007B00	Something is detected on CS41A, CS41B sensor in initialization	
4007C00	Missfeed error in 4th cassette	

Error Code	Description	Trouble shooting
4007D00	Trying to dispense bills from 4th cassette but the 4th cassette doesn't installed.	
4008000	Something is detected on CS15AB sensor before dispensing operation	
4008100	Something is detected in C15AB sensor during dispensing operation	
4008200	Bill is remained in CS15AB sensor after dispensing operation	
4008F00	CS13 sensor detects a bill with hole during dispensing	
4009A00	CS31AB~CS13 Time out(Jam) during dispensing from 3rd cassette.	
4009D00	Trying to dispense bills from 3rd cassette but the 3rd cassette doesn't installed.	
4009F00	3 cassette miss feed error	
400AC00	Something is detected on CS2 sensor after dispense operation	
400BC00	Communication error - Command Length doesn't match.	
400BE00	Bill pickup sensor(CS1, CS15) recognized has a hole and CS4 sensor detects it or CS4 snesor detects the gap too close	
400C700	Something is detected on CS12 sensor during dispensing bills or initialization.-MB TTW	
400C800	Something is detected on CS14 sensor during dispensing bills or initialization.-MB TTW	
400C900	Something is detected on CS14 sensor after dispense operation	
400CC00	Bill is remained on the sensor in front of cassette during resetting.	
400D000	Bills are passed on CS13~CS12 sensor - Timeout[Jam], MB TTW	

Error Code	Description	Trouble shooting
400D100	Bills are passed on CS12~CS14 sensor - Timeout[Jam], MB TTW	
400FF00	Bill jam	1. Remove the jammed notes 2. Initialize
4DN0000	Cash Dispenser communication failure during sending command to cash dispenser	1. Do RESET at Operator Function 2. Reboot ATM
4DN0100	Cash Dispenser communication failure during receiving command to cash dispenser	1. Do RESET at Operator Function 2. Reboot ATM
4DN8100	Communication error of Shutter	
8216091	Cash jammed on Cash Dispenser	1. Remove jammed notes on Cash Dispenser return path 2. Remove dust in CS1~CS4 sensor
9712000	Failed to create file	1. Reboot ATM 2. Reinstall software 3. Replace hard disk drive
9712100	Failed to read file	1. Reboot ATM 2. Reinstall software 3. Replace hard disk drive
9712200	Failed to write file	1. Reboot ATM 2. Reinstall software 3. Replace hard disk drive
9712300	Failed to close file	1. Reboot ATM 2. Reinstall software 3. Replace hard disk drive
9712400	Failed to delete file	1. Reboot ATM 2. Reinstall software 3. Replace hard disk drive
9712500	Failed to copy file	1. Reboot ATM 2. Reinstall software 3. Replace hard disk drive
9712600	Failed to create directory	1. Reboot ATM 2. Reinstall software 3. Replace hard disk drive
9719000	Failed to execute an extra command in the status of Cash Unit Exchange	1. Reboot ATM 2. Reinstall software 3. Replace hard disk drive
9719100	In case of not being the status of Cash Unit Exchange out of End Exchange	1. Reboot ATM 2. Reinstall software 3. Replace hard disk drive
9719200	In case of carrying out Cash In Start command at two times	1. Reboot ATM 2. Reinstall software 3. Replace hard disk drive
9719300	In case of not being the status of Cash In out of End Cash In	1. Reboot ATM 2. Reinstall software 3. Replace hard disk drive

Error Code	Description	Trouble shooting
9719400	Invalid Cash Unit ID	Reconfigure cash dispenser setup data
9719500	Invalid Cash Unit number	Reconfigure cash dispenser setup data
9719600	The abnormal of the number of Cash Unit	Reconfigure cash dispenser setup data
9719700	No. of dispensed notes that software counts is not matched to it cash dispenser responded	1. Initialize after resetting the power 2. Upgrade the Cash Dispenser firmware or download software again 3. Replace the Cash Dispenser B/D
971A000	Invalid denomination	Reconfigure denomination at supervisor mode
971A100	Invalid currency	1. Reconfigure currency at supervisor mode
971A200	CASSETTE OFF POSITION". Not dispensable	1. Reconfigure denomination 2. Reconfigure currency
971A300	In case the number of bills dispensed exceeds the maximum dispensing bill	1. Check cash dispenser driver (CDM SP) version 2. Reconfigure the maximum dispensable count
971A400	In case the number of coins dispensed exceeds the maximum dispensing coin	1. Check coin dispenser driver version 2. Reconfigure the maximum dispensable count
971A500	Invalid mix number	1. Reconfigure cash dispenser at supervisor mode
971A600	In case automatic Retry of SP fails 3 times	
971A700	There is no setting information about automatic Retry standard	
971B000	In case of being executed Reject or Retract command without being the bills in stacker.	1. Check a dust in stacker 2. Reconfigure the maximum dispensable count
971C000	Not supported command	Reinstall software
971D100	Partial dispense	1. Check the replenished amount and replenish 2. Check the notes in cassette #1
971D200	Partial dispense from cassette #2	1. Check the replenished amount and replenish 2. Check the notes in cassette #2
971D300	Partial dispense from cassette #3	1. Check the replenished amount and replenish 2. Check the notes in cassette #3
971DX00	In case partial bills dispensed by dispensing demand when Partial Dispense option is on. ☞ "X" means cassette number.	

Error Code	Description	Trouble shooting
9740000	Cash Dispenser communication failure during COM port open	1. Do RESET at Operator Function 2. Reboot ATM
9740101	In case incorrect cassette type is set.	
9740102	In case nonexistent Note Index is set.	
9741100	When sensing CS2 Dark (Error code, 400FF00 is subdivided by location of sensor.)	
9741400	When sensing CS4A Dark (Error code, 400FF00 is subdivided by location of sensor.)	
9741800	When sensing CS4B Dark (Error code, 400FF00 is subdivided by location of sensor.)	
9742100	When sensing CS21A,B Dark (Error code, 400FF00 is subdivided by location of sensor.)	
9742800	When sensing CS13 Dark (Error code, 400FF00 is subdivided by location of sensor.)	
9743B00	When sensing CS15A,B Dark (Error code, 400FF00 is subdivided by location of sensor.)	
9744700	Cash picking-up fail while cash in cassette #1 is enough	1. Check bill jam or no note in cassette #1 2. Check cash dispenser
9745B00	Cash picking-up fail while cash in cassette #2 is enough	1. Check bill jam or no note in cassette #2 2. Check cash dispenser
9746B00	When sensing CS31A,B Dark (Error code, 400FF00 is subdivided by location of sensor.)	
9747B00	When sensing CS41A, B Dark (Error code, 400FF00 is subdivided by location of sensor.)	
9747C00	Cash picking-up fail while cash in cassette #4 is enough	1. Check bill jam or no note in cassette #2 2. Check cash dispenser
974FF00	When sensing bills in the Stacker (Error code, 400FF00 is subdivided by location of sensor.)	
9749F00	Cash picking-up fail while cash in cassette #3 is enough	1. Check bill jam or no note in cassette #2 2. Check cash dispenser
97914XX	DEV_Cash Dispenser Timeover Error Code	1. Reboot ATM 2. Call your attendant

Error Code	Description	Trouble shooting
97924XX	DEV_Cash Dispenser FATAL ERROR (WARNING)	1. Reboot ATM 2. Call your attendant
9799499	DISPENSER COUNT ERROR	Check the sensor on cash dispenser

E.5 Modem

Error Code	Description	Trouble shooting
D030000	Modem is not responding	Check the modem controller.
D030100	The target call address has call blocking enabled.	1. Check modem cable 2. Contact to technician support team
D030200	The specified terminal identifier is invalid.	1. Check modem cable 2. Contact to technician support team
D030300	All call appearances on the specified address are currently in use.	1. Check modem cable 2. Contact to technician support team
D030400	The disable address parameter contains dialing control characters that are not processed by the service provider.	1. Check modem cable 2. Contact to technician support team
D030500	The specified country/region code is invalid.	1. Check modem cable 2. Contact to host and phone company
D030600	The operation failed for an unspecified or unknown reason.	Contact to technician support team
D030700	Insufficient resources to complete the operation	Contact to technician support team

E.6 Miscellaneous

Error Code	Description	Trouble shooting
1030100	DEV_PIN (Key data error from host)	Contact to host
2000400	Vault door open	Close the vault door. Check door switch.
9701010	Failed to connect communication between SP of PIN and EP of one	Check if communication cable or COM port is not connected
9701012	Failed to deliver to data of EPP's SP	Check if communication cable or COM port is not connected
9701016	Received data time out of EPP	Check if communication cable or COM port is not connected
9701017	Delivered data time out of EPP	Check if communication cable or COM port is not connected
9701031	Failed to read Register of EPP	Reboot ATM
9701040	Failed to produce Thread of EPP	Reboot ATM
9701060	Failed to create buffer	Reboot ATM
9701111	BCC error of EPP	Check BCC logic of EPP
9701151	EPP is down when it receives an 'Get Status' command	1. Reboot ATM 2. Replace pinpad
9701152	EPP is down when it receives an 'Clear Func Key' command	1. Reboot ATM 2. Replace pinpad
9722020	File Open Error	1. Reboot ATM 2. Call your attendant
9722060	Memory Allocate Error (PrintForm Allocate IndexBuffer Fail)	1. Reboot ATM 2. Call your attendant
9722068	Invalid Media Name	1. Reboot ATM 2. Call your attendant
97221A2	Invalid Unit	1. Reboot ATM 2. Call your attendant
97221C1	Form is not Found	1. Reboot ATM 2. Call your attendant
97221C4	Form Name is NULL	1. Reboot ATM 2. Call your attendant
97221C5	Invalid Form	1. Reboot ATM 2. Call your attendant

Error Code	Description	Trouble shooting
97221C6	PrintForm() offset is Invalid	1. Reboot ATM 2. Call your attendant
97221C7	Invalid Form (Too many Fields in the form)	1. Reboot ATM 2. Call your attendant
97221D1	Media is not Found	1. Reboot ATM 2. Call your attendant
97221D3	Media Overflow when form size is larger than media size	1. Reboot ATM 2. Call your attendant
97221D4	Media Name is NULL	1. Reboot ATM 2. Call your attendant
97221D5	Invalid Media (Attribute for Media definition is not proper)	1. Reboot ATM 2. Call your attendant
97221D6	Invalid Media (Area size is larger than media size)	1. Reboot ATM 2. Call your attendant
97221D7	Invalid Media (Size of Media Name is exceeded to 2048 bytes totally)	1. Reboot ATM 2. Call your attendant
97221E1	Field is not Found	1. Reboot ATM 2. Call your attendant
97221E2	Field Error (This Field must have initial value)	1. Reboot ATM 2. Call your attendant
97221E3	Non-Indexed value for Indexed Field	1. Reboot ATM 2. Call your attendant
97221E4	Invalid Field	1. Reboot ATM 2. Call your attendant
97221E5	Invalid Field (This Field's width is 0)	1. Reboot ATM 2. Call your attendant
9740020	Failed to create file	1. Reboot ATM 2. Call your attendant
9740025	Failed to copy file	1. Reboot ATM 2. Call your attendant
9745500	System power off while dispensing	

Error Code	Description	Trouble shooting
97915XX	DEV_BRM Timeover Error Code	1. Reboot ATM 2. Call your attendant
97916XX	DEV_PBM Timeover Error Code	1. Reboot ATM 2. Call your attendant
97918XX	DEV_PIN Timeover Error Code	1. Reboot ATM 2. Call your attendant
9791AXX	DEV_FNG Timeover Error Code	1. Reboot ATM 2. Call your attendant
9791BXX	DEV_VFD Timeover Error Code	1. Reboot ATM 2. Call your attendant
97925XX	DEV_BRM FATALERROR (WARNING)	1. Reboot ATM 2. Call your attendant
97926XX	DEV_PBM FATALERROR (WARNING)	1. Reboot ATM 2. Call your attendant
97928XX	DEV_PIN FATALERROR (WARNING)	1. Reboot ATM 2. Call your attendant
9792AXX	DEV_FNG FATALERROR (WARNING)	1. Reboot ATM 2. Call your attendant
9792BXX	DEV_VFD FATALERROR (WARNING)	1. Reboot ATM 2. Call your attendant
9799901	DOOR CHECK	1. Reboot ATM 2. Call your attendant
9799902	LIGHT ERROR	1. Reboot ATM 2. Call your attendant
9799903	SPL ERROR	1. Reboot ATM 2. Call your attendant
9799904	PIN ERROR	1. Reboot ATM 2. Call your attendant
9799905	SENSOR CHECK	1. Reboot ATM 2. Call your attendant
9799907	UPS ERROR	1. Reboot ATM 2. Call your attendant

Error Code	Description	Trouble shooting
9799908	SCREEN ERROR	1. Reboot ATM 2. Call your attendant
991@@@91	ON TRANSACTION POWER OFF	1. Check power supply 2. Check backup battery
D000100	Error while modem initializing	Check the modem connection and the modem test.
D000200	Reversal transaction failure	Check for any CDU error codes and the number of notes dispensed to customer.
D000300	PIN ERROR	Transaction was denied by host
D000400	INVALID PIN	Reboot ATM
D000500	BANK UNAVAILABLE	Transaction was denied by host
D000600	CARD NOT SUPPORTED	Transaction was denied by host
D000700	INSUFFICIENT FUNDS	Transaction was denied by host
D000800	INELIGIBLE TRANSACTION	Transaction was denied by host
D000900	INELIGIBLE ACCOUNT	Transaction was denied by host
D001000	DAILY LIMIT EXCEEDED	Transaction was denied by host
D001100	UNABLE TO PROCESS	Transaction was denied by host
D001200	Invalid transaction	Check the transaction from the host and try again.
D001300	Invalid amount	Check the transaction from the host and try again.
D001400	Invalid card number	Check the transaction from the host and try again.
D001500	UNABLE TO PROCESS	Transaction was denied by host
D001600	WITHDRAWAL LIMIT ALREADY REACHED	Transaction was denied by host
D001700	INVALID AMOUNT	Transaction was denied by host
D001800	EXTERNAL DECLINE	Transaction was denied by host

Error Code	Description	Trouble shooting
D001900	SYSTEM ERROR	Transaction was denied by host
D002000	Surcharge screen should have been displayed	Check the transaction from the host and try again. Check BIN List
D002100	ROUTING LOOKUP PROBLEM	Transaction was denied by host
D002200	UNABLE TO PROCESS	Transaction was denied by host
D002300	TRANSACTION NOT SUPPORTED	Transaction was denied by host
D002400	Exceeds Issuer Withdrawal Limit	Check the transaction from the host and try again.
D003900	No Credit Account	Check the transaction from the host and try again.
D005100	Insufficient Funds	Check the transaction from the host and try again. Try Balance Inquiry
D005200	No Checking Account	Check the transaction from the host and try again.
D005300	No Savings Account	Check the transaction from the host and try again.
D005400	Expire Card	Check the transaction from the host and try again.
D005500	Incorrect Pin	Check the transaction from the host and try again.
D005700	Transaction not Permitted – Card	Check the transaction from the host and try again.
D005800	Transaction not Permitted – Terminal	Check the transaction from the host and try again.
D006100	Exceeds Withdrawal Limit	Check the transaction from the host and try again.
D007500	PIN Tries Exceeded	Check the transaction from the host and try again.
D007800	No Account	Check the transaction from the host and try again.
D008000	Invalid Date	Check the transaction from the host and try again.

Error Code	Description	Trouble shooting
D008300	Can not Verify PIN	Check the transaction from the host and try again. Try different cards.
D008600	Can not Verify PIN	Check the transaction from the host and try again. Try different cards.
D009100	Bank Unavailable	Check the transaction from the host and try again.
D009200	System Unavailable	Check the transaction from the host and try again.
D009300	Transaction Serial Number mismatch	Check the terminal setting from the host.
D009400	Record format mismatch.	Check the terminal setting from the host.
D009500	Routing ID mismatch.	Check the terminal setting from the host.
D009600	Terminal ID mismatch.	Check the terminal setting from the host.
D009700	Response Type mismatch (Reversal)	Check the terminal setting from the host.
D009800	Response Type mismatch (Day Close)	Check the terminal setting from the host.
D009900	Response Type mismatch (Config.)	Check the terminal setting from the host.
D009A00	Response Type mismatch (Withdrawal/Balance/Transfer)	Check the terminal setting from the host.
D009B00	STX error	Check the terminal setting from the host.
D009C00	ETX error	Check the terminal setting from the host.
D009D00	FS out (after response code)	Check the terminal setting from the host.
D009E00	FS out (after retrieval reference number)	Check the terminal setting from the host.
D009F00	FS out (after system trace audit number)	Check the terminal setting from the host.
D00A000	FS out (after account balance)	Check the terminal setting from the host.

Error Code	Description	Trouble shooting
D00A100	FS out (after available balance)	Check the terminal setting from the host.
D00A200	FS out (after surcharge amount)	Check the terminal setting from the host.
D00A300	FS out (after authorization response text)	Check the terminal setting from the host.
D00A400	ETX wrong position	Check the terminal setting from the host.
D00A500	FS out (after total cash dispense amount)	Check the terminal setting from the host.
D00A600	FS out (after total non-cash dispense amount)	Check the terminal setting from the host.
D00A700	FS out (after total surcharge amount)	Check the terminal setting from the host.
D00A800	FS out (after config surcharge amount)	Check the terminal setting from the host.
D00A900	ETX out (config)	Check the terminal setting from the host.
D00AC00	Invalid data received from the host (MAC data mismatch)	Check the terminal setting from the host.
D00B000	TERMINAL ID MISMATCHED	
D00B100	TRANSACTION CODE MISMATCHED	
D00B200	SECOND FIELD ID CODE MISMATCHED	
D00B300	FIRST DES KEY WRONG SIZE	
D00B400	SURCHARGE AMOUNT WRONG SIZE	
D00B500	Sequence Number MISMATCHED	
D00B600	INVALID RESPONSE CODE ERROR	
D00B700	Authorization Number Error	
D00B800	BUSINESS DATE Error	
D00B900	Transaction time Number Error	
D00BA00	BUSINESS DATE Error	

Error Code	Description	Trouble shooting
D00BB00	Balance amount Error	
D00BC00	Actual Surcharge Error	
D00BD00	Sequence Number MISMATCHED	
D00BF00	BUSINESS DATE Error	
D00C000	Settlement Error	
D00C100	Host Mac result error	Check the key mode and MAC value
D00C200	ATM Mac result error	Check the key mode and MAC value
D011100	REVERSAL DECLINED	
D022200	PIN CHANGE DECLINED	
D100000	No connection	1. Check phone number 2. Check modem cable 3. Contact phone company
D110000	Cannot receive ENQ from the host	1. Check phone number 2. Check modem cable 3. Contact telephone company
D120000	Transmission error : Failed to receive the whole data within 5 seconds after requesting the modem to send the data.	1. Check modem and modem cable connection 2. Contact telephone company
D130000	Receiving NAK more than 3 times	1. Check modem and modem cable connection 2. Contact telephone company
D140100	Disconnected by Unknown Reason	1. Check modem and modem cable connection 2. Contact telephone company
D140200	Disconnected by rejected call from remote party	Try again later.
D140300	Disconnected because the local phone was picked up	Try again later.
D140400	Disconnected by Forwarded	1. Check modem and modem cable connection 2. Contact telephone company
D140500	Disconnected by Unreachable	1. Check modem and modem cable connection 2. Contact telephone company

Error Code	Description	Trouble shooting
D140600	Disconnected by Congestion	1. Check modem and modem cable connection 2. Contact telephone company
D140700	Disconnected by Incompatible	1. Check modem and modem cable connection 2. Contact telephone company
D140800	Disconnected by un-known reason	1. Check modem and modem cable connection 2. Contact telephone company
D140900	Disconnected by Bad Address	1. Check modem and modem cable connection 2. Contact telephone company
D141000	Disconnected by Unavailable	1. Check modem and modem cable connection 2. Contact telephone company
D150000	1. Modem dial connection time-out (while dialing the modem). 2. No response from host for 60 seconds.	1. Check modem and modem cable connection 2. Contact telephone company
D160100	Disconnected by Bad Address	1. Check modem and modem cable connection 2. Contact telephone company
D160200	Disconnected by Unavailable	1. Check modem and modem cable connection 2. Contact telephone company
D160300	Disconnected by Out of Order	1. Check modem and modem cable connection 2. Contact telephone company
D170000	No carrier (while sending/receiving data after dial connection)	Check host.
D170100	No Carrier during ENQ data receive from host	Check host.
D170200	No Carrier before sending data send to host	Check host.
D170300	No Carrier during sending data send to host	Check host.
D170400	No Carrier during ACK/NAK data send to host	Check host.
D170500	No Carrier during ACK/NAK data receive from host	Check host.
D170600	No Carrier during receiving data	Check host.

Error Code	Description	Trouble shooting
D170700	NAK retry error.	1. Check modem and modem cable connection 2. Contact telephone company
D170800	Send retry error	1. Check modem and modem cable connection 2. Contact telephone company
D170900	Modem initialize fail	Check modem
D171000	Modem Comport Failed	Check modem
D180000	No Dial Tone(in Modem dial connection)	Check telephone line connection. Test Modem.
D190000	No Answer	1. Contact telephone company (Check telephone line connection. Check phone number.)
D200000	Dial(Line) busy	Try again later. Check phone number.
D210000	Time out(30sec.) for initializing modem before Modem Dial connecting	Check telephone line connection. Test Modem.
D220000	not receiving EOT from HOST	Check telephone line connection. Test Modem. Check host.
D230000	No response from Host - Dialing time out to Host	Check telephone line connection. Test Modem. Check phone number.
D250000	Cannot connect to the host	Check telephone line connection
D251000	Timeout while Sending	Check telephone line connection
D251100	Communication error while Sending	Check telephone line connection
D251200	Socket error while Sending	Check telephone line connection
D251300	Timeout while Receiving	Check telephone line connection
D251400	Communication error while Receiving	Check telephone line connection
D251500	Socket Error while Receiving	Check telephone line connection
D320000	No response from Host/Dialing time out to Host	Check telephone line connection
D320100	Outbound call is aborted	Check telephone line connection. Test Modem.
D320200	Fail to dial out	Check telephone line connection. Test Modem.
D320300	No Line Reply	

Error Code	Description	Trouble shooting
D320400	Get Line ID Failed	
D320500	Modem Comport Failed	
D320600	Call Failed	
D320700	No Answer	
D320800	Modem Call Other Error	
D410000	CRC Mismatch	Check telephone line connection
D410100	No CRC Received	Make sure that the host is using CRC
DA0xxx0	Host Denial Error	Refer to E7. Description for error code organization
F000100	Number of Bill is not inputted	Enter number of bill. (required)
F000200	Parameter is not properly set (Surcharge Owner)	Enter surcharge owner. (required)
F000300	Parameter is not properly set (Surcharge Amount)	Enter surcharge amount. (required)
F000400	Parameter is not properly set (Adver. Text refreshing timer)	Enter Ad text refresh timer.
F000500	Parameter is not properly set (Advertisement text)	Enter Ad text.
F000600	Parameter is not properly set (Dispense limit)	Enter Dispense limit.
F000700	Parameter is not properly set (Denomination)	Enter Denomination. (required)
F000800	Parameter is not properly set (Fast Cash)	Enter Fast Cash amount.
F000900	Master Key Index invalid	Check Master key index.
F000A00	Master Key empty	Enter Master key. (required)
F000B00	Host Phone Number is not inputted	Enter Host phone number. (required)
F000C00	Error Retry Timer is not inputted	Enter Retry timer.
F000D00	RMS Password is not inputted in RMS Enable	Enter RMS password.

Error Code	Description	Trouble shooting
F000E00	RMS Phone Number is not inputted in RMS Enable	Enter RMS phone number.
F000F00	Terminal Number is not inputted	Enter Terminal number. (required)
F001000	Routing ID is not inputted	Enter Routing ID. (required)
F001100	Master Key Serial Number is not inputted	Enter Master key serial number.
F001200	Non-Cash Type text is not inputted	Enter Non-cash type text.
F001300	Parameter is not properly set	Check proper parameters in setting.
F001400	NVRAM Failure	Try to clear NVRAM
F001500	ATM Serial No. Empty	Enter ATM serial number. (required)
F001600	Default master password was not changed	
F001F00	Machine serial number is not set	Check serial number. 2. Set serial number.
F002F00	Host type is not set	Check host type. 2. Set host type.
F003F00	Communication ID invalid (only triton)	Contact to technician support team .
F004F00	EPP(Pinpad) key mode is invalid	1. Check modem cable 2. Contact to technician support team
F005F00	Denomination is invalid	1. Check modem cable 2. Contact to technician support team
F006F00	Failed Host Connection!	1. Check Host Connection. 2. Contact to technician support team.
FFFFFFF	NVRAM is broken	1. Reset Master Password 2. Clear NVRAM
POWERAB	UPS ABNORMAL	Check UPS
POWERAC	POWER OUT OR AC OFF	1. Check AC power status and environment 2. Check AC power status and environment

Error Code	Description	Trouble shooting
POWERBA	BATTERY LOW	1. Check AC power status and environment 2. Check UPS
SDN0100	Service Panel (SPL) communication error	Check the cables and connections.

E.7 Description for error code organization

If an error occurs, you can understand cause of error through error code and help operator to judge situation. Below example is forms and contents for error code "5-40047(00)".

1. 5 in front "-" is procedure number, and you can analysis the procedure that an error occurs through that number.
 - 1) Procedure number, the number in front of "-", is none as follow situations :
 - (1) Reboot the system when errors occur :
 - (2) Fail to restore automatically when errors occur:
 - (3) When transferring from Operator Mode to Transaction Mode not ruling out the error.
 - 2) "1" – After users inset the card, procedure number is 1.
 - 3) "3" – When sending message from ATM to Host, procedure number is 3.
 - 4) "5" – When receiving transaction success message from Host, procedure number is 5.
 - 5) "6" – After confirming notes during withdrawal, procedure number is 6.
 - 6) "9" – When receiving transaction refusal message from Host, procedure number is 9.
2. "40047(00)" back of "-" is a description for an error. (Refer to Error Code)
3. If an error occurs, below message will be displayed on the screen.

TERMINAL ID : XXXXXXXXXXXXXXXX
 ERROR CODE : 5-40047(00)
 ERROR DESCRPTION

☞ HOST DENY ERROR CODE

1. When receiving HOST DENY message, below error code will be displayed on the screen.

TERMINAL ID : XXXXXXXXXXXXXXXX
 ERROR CODE : 9-DA0XX(X0)
 ERROR DESCRIPTION

- When HOST DENY ERROR CODE is 2 byte, DA0XX(00) will be displayed.
 (Value of XX means deny code.)
- When HOST DENY ERROR CODE is 3 byte, DA0XX(X0) will be displayed.
 (Value of XXX means deny code.)

F. Installation Guide

F.1 Installation Requirements and Necessary Tools

- Installation condition and space
 - Following conditions should be met before installing equipment.
 - 1) Temperature while operating should be between 40°F - 95°F
 - 2) Relative humidity while operating should be between 15% < RH < 85%, Non-Condensed
 - 3) Avoid locations where intense direct light is reflected off the LCD screen.
 - 4) Avoid locations where strong static electricity can occur.
 - 5) Avoid placing the product next to equipment that produces electromagnetic waves. It could interfere with data transfer.
 - 6) The floor must allow easy wheelchair access from the front or the side.
 - 7) Space required for servicing the machine should be considered before installation.

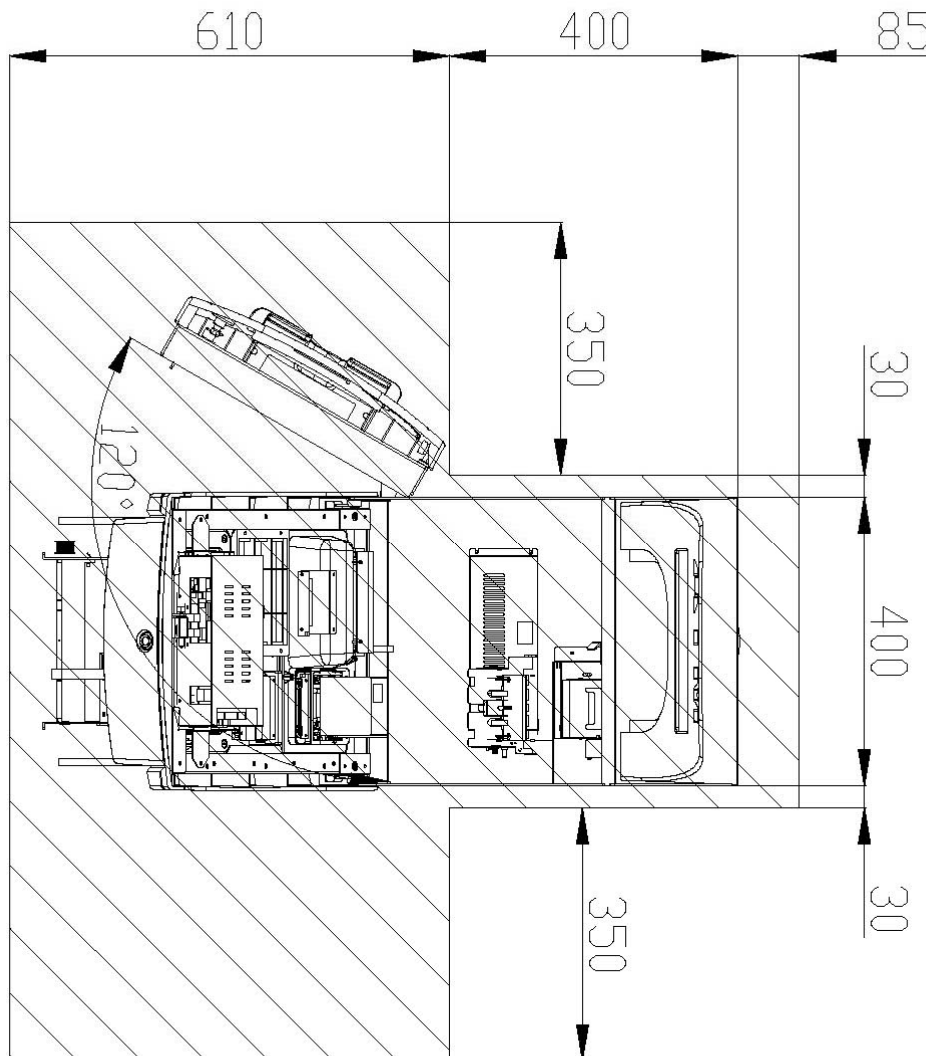


Fig. 7. 4 Installation space #1 (Plane view)

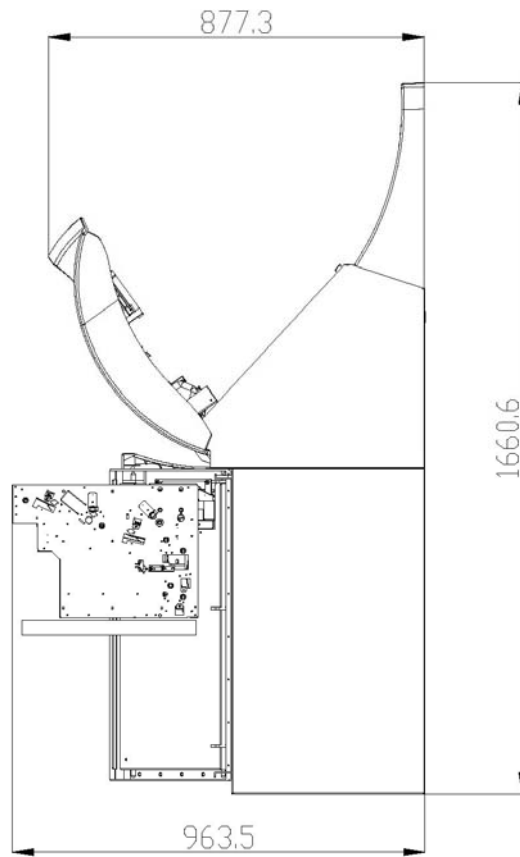


Fig. 7.5 Installation space #2 (Side view)

- Tools required for installation

In order to move the machine and place it in a proper location, you should seek the help of professionals trained in moving heavy equipment.

Following tools are needed to install the machine.

- Wire cutter
- Lifter
- Screw driver (Flat, Phillips)
- Wrench (Spanner)
- Leveling tool

F.2 How to Install this ATM at Customer Site

● Unpacking

- 1) Unpack the machine on top of the palette.
- 2) Cut the straps that are fastened around the box with a knife.
(Be careful when cutting the straps.)
- 3) Use an appropriate tool to remove the nails from the palette.
- 4) Remove the lid, then box from the top. Do not discard the packaging materials until you have verified any shipping damage claim. Contact your distributor immediately if you see any shipping damage. Store the box in a safe place to re-use or discard of appropriately.
- 5) Verify the contents carefully with the packing list to be sure all items listed are included. Notify your distributor of any shortages.
- 6) If only the palette needs to be removed, lift the whole machine from the bottom and set it aside.

● Physical Installation

To install the Model NH-1800CE ATM, perform the following steps.

- 1) Place the “Anchor bolts locate sheet” at the place where the machine is to be installed.
(refer to Fig. 7.6)
- 2) Place the system on a flat surface, the system has a tendency to tip over if the surface is over 5 degrees. (refer to Fig 7.7) Be careful when opening the top or bottom of the machine s it will be off balance
- 3) Place the Anchor nuts into the ground according to the anchor bolts locate sheet.
(4 places)
- 4) Place the Model NH-1800CE ATM on top of the sheet.
- 5) Open the Security cover with the key provided.
- 6) Using the supplied combination (factory preset at 50-25-50) open the Security Door.
This combination should be changed as soon as possible. Refer to Appendix B for instructions on changing the lock combination.
- 7) After the anchor nuts are in place according to the anchor holes on the bottom of the NH-1800CE ATM, tighten the anchor bolts tightly. (refer to 7.6)

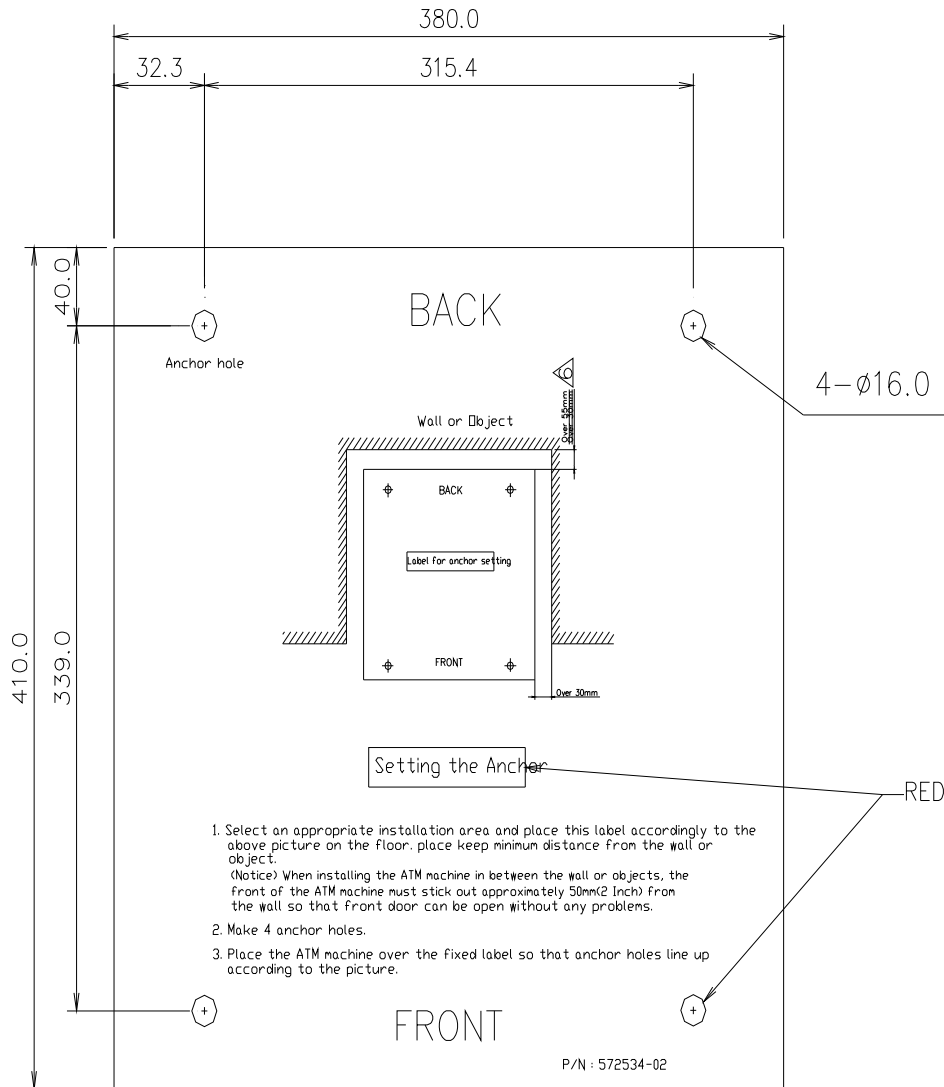


Fig. 7. 6 Anchor diagram of NH-1800CE ATM

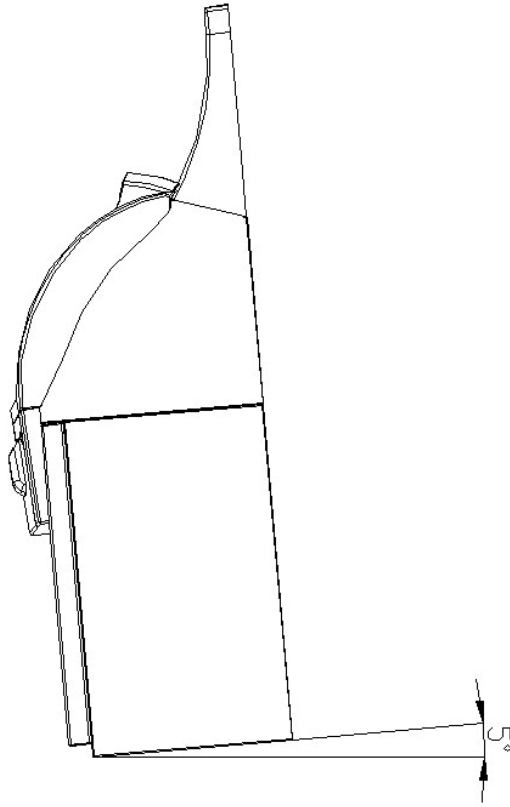


Fig. 7.7 Making a surface level of ATM

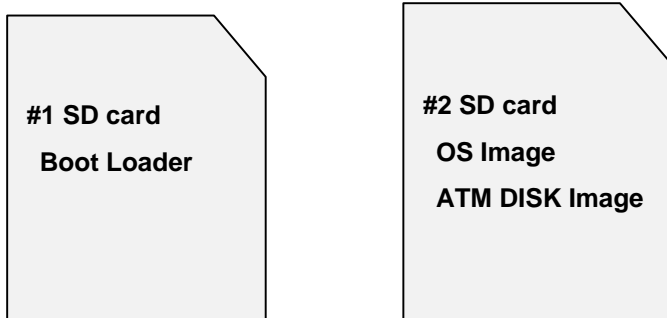
F.3 Software Quick Installation Guide with SD Memory Card

● **Preparation**

(1) Installation Media

There are 2 type of SD memory card to install NH-1800CE machine.

The first SD card is for Boot Loader, and the second SD card is for OS Image and ATM DISK Image which contain all of software.



This function can be supported in Boot loader version 1.2.6 or higher.

You can use #2 SD card to to update OS Image only, ATM Disk only or both.

(2) Preparation files

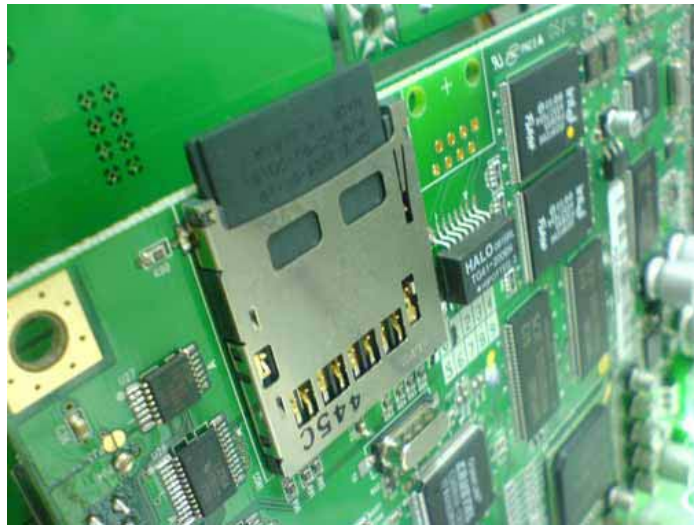
To make installation SD card, just copy installation files to SD card in your PC.

No.	File name	Contents
1	EBOOT.bin	Boot loader image for #1 SD card
2	nh270nk.bin	Operating System image for #2 SD card
3	ATMDISK.bin	ATM disk and software image for #2 SD card

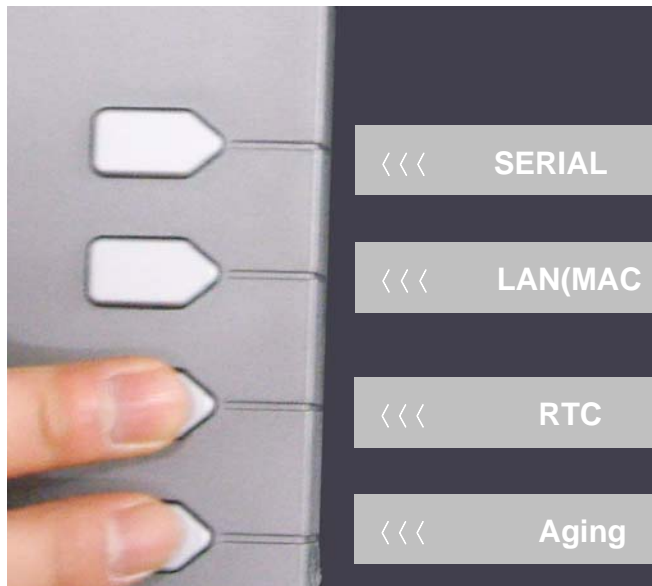
- **Installation**

(1) Boot loader installation

- 1) Power off ATM machine and remove cover of system main panel.
- 2) Put #1 SD card to SD slot.



- 3) Power on ATM machine.
- 4) Press two buttons on the left bottom just after power on.



5) In main menu mode, select “SD CARD” button on the right.

6) Automatically, boot loader is updated.

```

===== << SD Upgrading .... >> =====
<< [BootLoader] Loading from SD CARD >>
>> [BootLoader] Writing fo FLASH. (SDRAM => Flash)
>> [BootLoader] Done to Write.

<< [DiskImage] Loading from SD CARD >>
!![DiskImage] No File !!

<< [OS Image] Loading from SD CARD >>
!![DiskImage] No File !!

```

If there are no EBOOT.bin file or SD card is not recognized, you can see the error message “ No File!!

You can find “reboot” menu on the right bottom.

(2) OS installation and ATM DISK installation

Use #2 SD card with OS Image and ATM DISK image. All installation step is just same as boot loader installation.

```

===== << SD Upgrading .... >> =====
<< [BootLoader] Loading from SD CARD >>
!![DiskImage] No File !!

<< [DiskImage] Loading from SD CARD >>
>> [BootLoader] Writing fo FLASH. (SDRAM => Flash)
>> [BootLoader] Done to Write.

<< [OS Image] Loading from SD CARD >>
>> [BootLoader] Writing fo FLASH. (SDRAM => Flash)
>> [BootLoader] Done to Write.

```

F.4 Software Quick Installation Guide

● **Clear NVRAM**

(1) NVRAM(Non Volatile Random Access Memory)

There are many important data in the NVRAM such as journal and configuration data. To clear all of configuration and journal data, you must clear NVRAM after installation of software.

If you upgrade ATM machine operating in the field, you must backup journal and remember configuration informations before clearing NVRAM.

(2) Clear NVRAM

1) Enter Supervisor Menu as Master Password

5000CE	USA		DOOR CLOSED		TCP/IP	STANDARD3		
CST1	183(\$20)	CST2	2000(\$10)	CDU	NORMAL	MCU	NORMAL	
CST3	N/A	CST4	N/A	SPR	AUTO-OFF	JPR	N/A	
MEDIA	CST1	CST2	CST3	CST4	RETRACT	MCU	SPR	JPR
	NORMAL	NORMAL	N/A	N/A	0	0	NORMAL	N/A
TERMINAL	NHUK0001			ROUTING ID	00000000			
AP VERSION	V01.03.00			DATE AND TIME	04/23/2008 13:53			

04 REPLENISH	SELECT NUMBER <input type="text"/>	23 REBOOT
05 CONFIGURE		
06 JOURNAL	NORMAL	33 RESET ALL
07 DIAGNOSTICS	[] - [00000(00)]	44 RESET
08 REPORT		98 CLEAR NVRAM
09 RCOPY		99 IN SERVICE

2) Input "98"(CLEAR NVRAM) and press <Enter> key in pinpad.



- 3) Select "CLEAR ALL" menu.
- 4) Confirm and select "Yes" menu.
- 5) All NVRAM data will be cleared and ATM will be automatically rebooted.

F.5 Installation Guide for MoniMax 5000CE

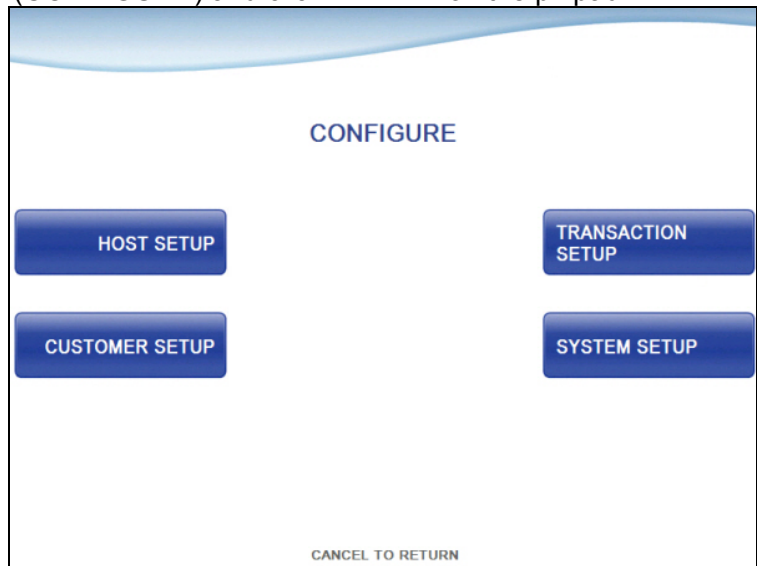
● DIAL-UP INITIAL SETTING

(1) DIAL-UP SETTING

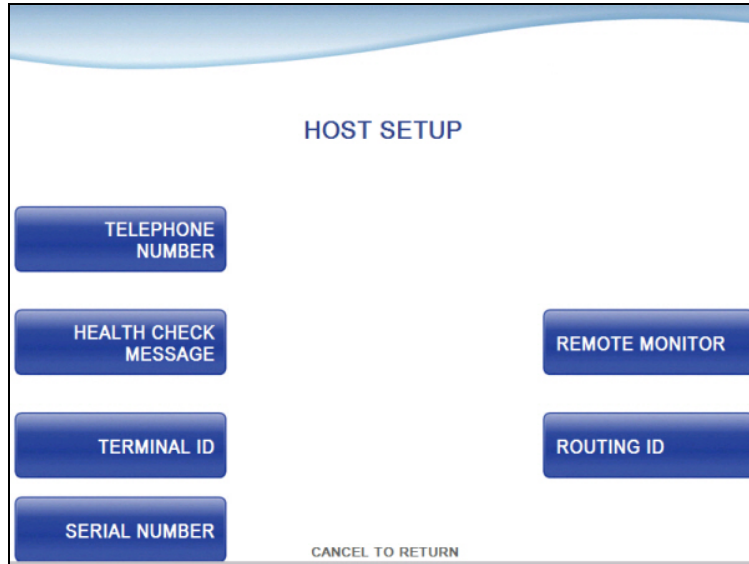
1) Input Master password to enter main screen.



2) Input "05" (CONFIGURE) and click 'ENTER' on the pinpad.



3) Select "HOST SETUP" menu.



4) Select "TELEPHONE NUMBER" menu.



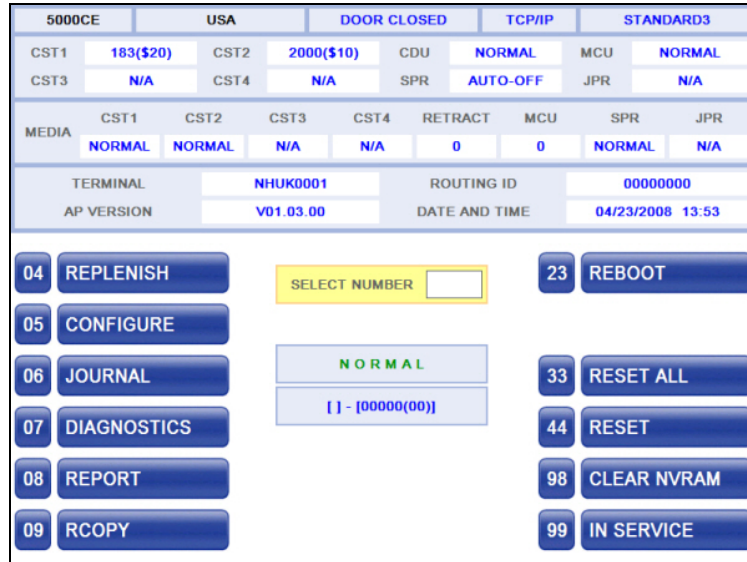
- 5) Be sure to input the telephone numbers both in the HOST PHONE #1 and in the HOST PHONE #2 after selecting "HOST PHONE #1" and "HOST PHONE #2" menu and click 'ENTER' on the pinpad.

- 6) After above procedures, enter "99" (IN SERVICE) on the pinpad in the main screen.

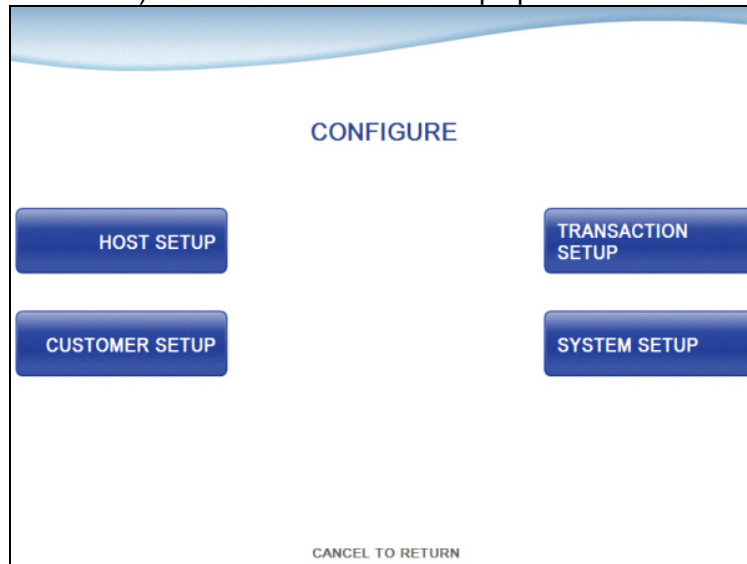
● TCP/IP INITIAL SETTING

(1) TCP/IP SETTING

1) Input Master password to enter main screen.



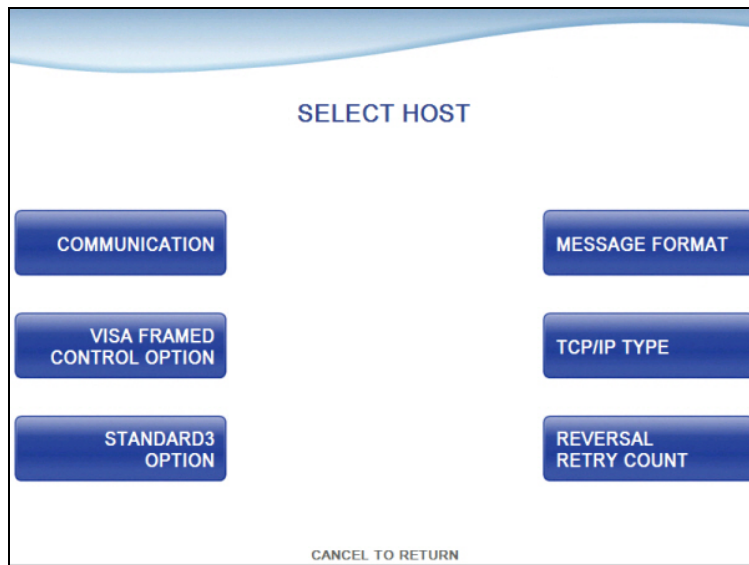
2) Input "05" (CONFIGURE) and click 'ENTER' on the pinpad.



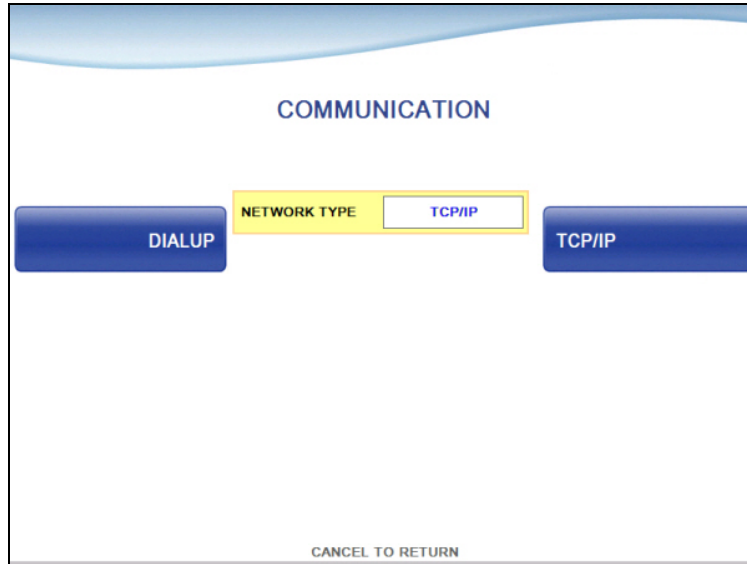
3) Select "CUSTOMER SETUP" menu.



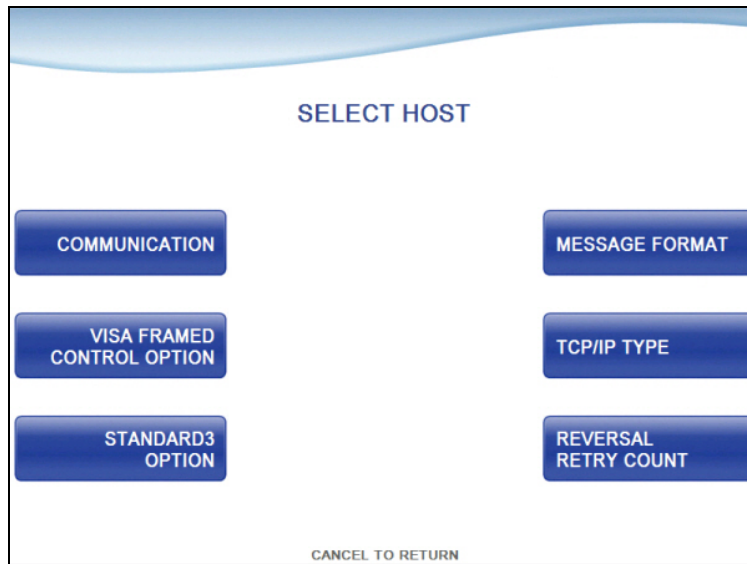
4) Select "SELECT HOST" menu.



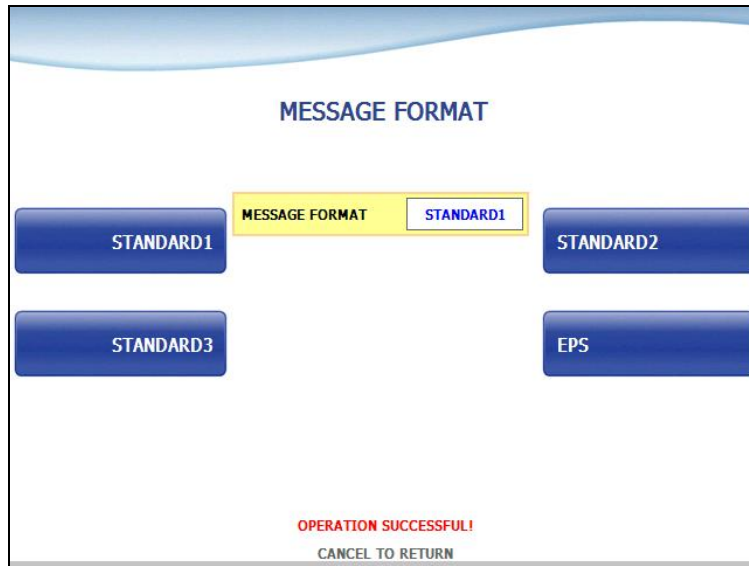
5) Select "COMMUNICATION" menu.



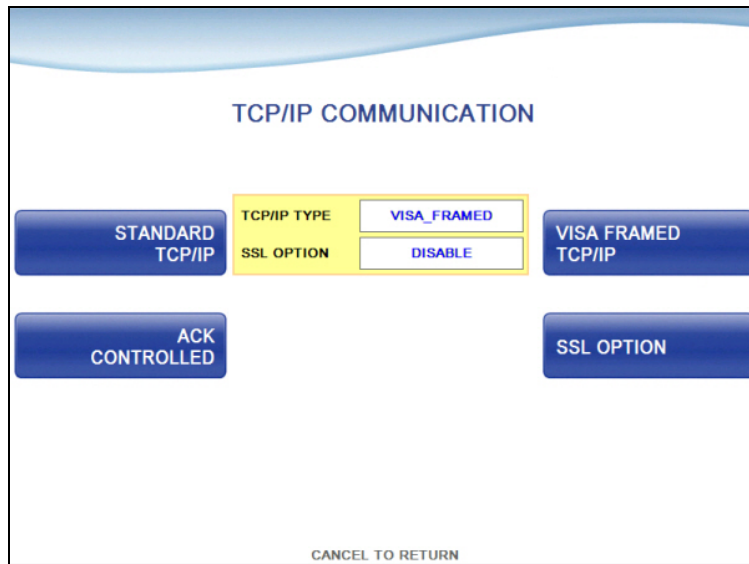
- 6) Select "TCP/IP" menu and message in the COMMUNICATION box will be changed from DIALUP to TCP/IP.
- 7) Click 'CANCEL' button and SELECT HOST screen will be back.
- 8) Select "MESSAGE FORMAT" menu in the SELECT HOST screen.



- 9) Select "STANDARD1" menu in the MESSAGE FORMAT screen. Click 'CANCEL' on the pinpad to go 'SELECT HOST'

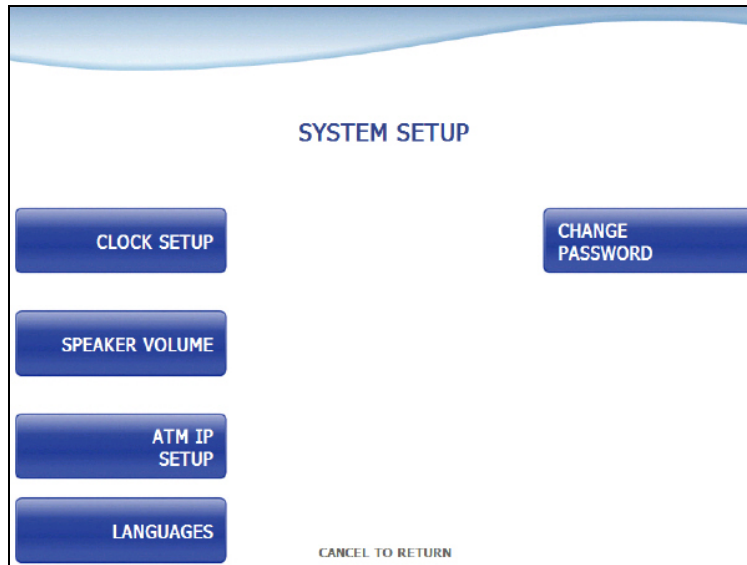


- 10) Select "TCPIP TYPE" menu in the SELECT HOST screen.
- 11) Set "STANDARD" in the TCPIP COMMUNICATION menu and set DISABLE in the SSL OPTION menu. Click 'CANCEL' button to go SELECT screen.



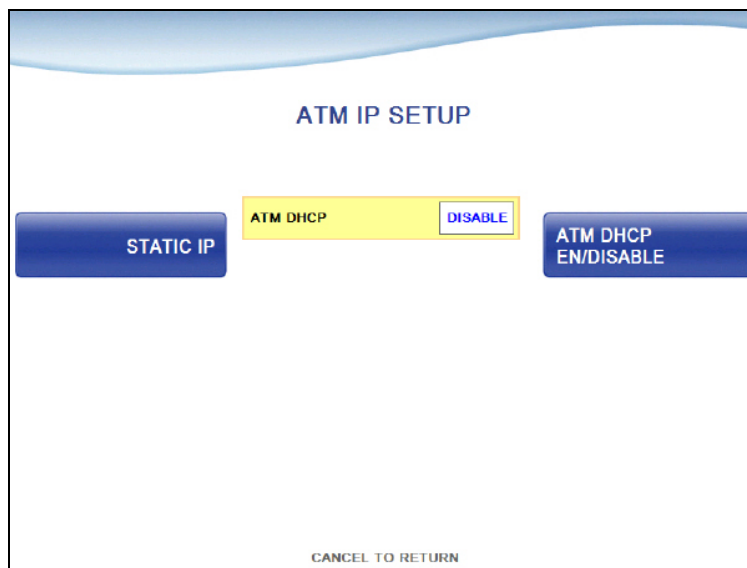
- 12) Click 'CANCEL' button and CUSTOMER SETUP screen will be shown. Click 'CANCEL' button once more to go CONFIGURE screen.

And select "SYSTEM SETUP" menu.



13) Select "ATMIP SETUP" menu.

14) Set "DHCP EN/DISABLE" as DISABLE to activate "STATIC IP"
And select "STATIC IP"



15) Select "IP ADDRESS", "GATEWAY", "SUBNET MASK" and "DNS" and set the input values individually.

Notice : Be sure to input "0" in the blank.

For example, if the ADDRESS is "150.11.5.129", input "150.011.005.129".

ATM IP CONFIGURANTION	
IP ADDRESS	150.011.005.129
SUBNET MASK	255.255.000.000
GATEWAY	150.011.001.254
DNS	000.000.000.000

Buttons: IP ADDRESS, SUBNET MASK, GATEWAY, DNS

CANCEL TO RETURN

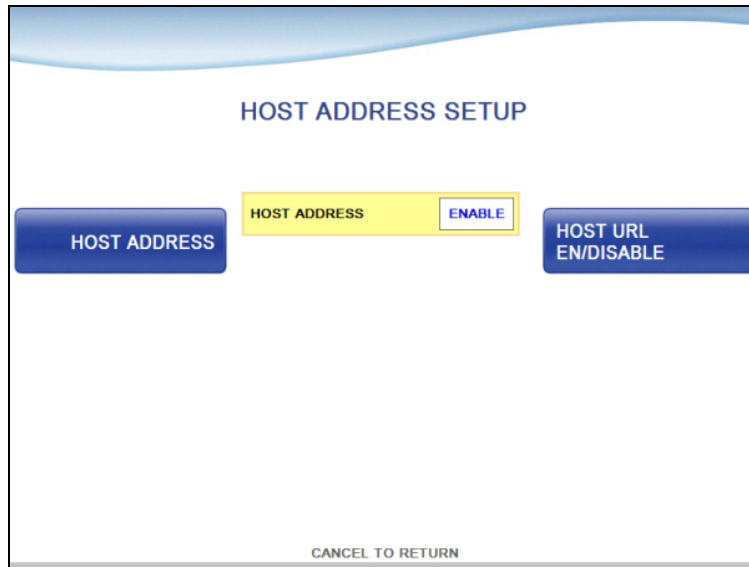
16) Select "HOST SETUP" menu in the CONFIGURE screen.

17) Select "HOST IP SETUP" menu in the HOST SETUP screen.

Buttons: HEALTH CHECK MESSAGE, REMOTE MONITOR, TERMINAL ID, ROUTING ID, SERIAL NUMBER, HOST IP SETUP

CANCEL TO RETURN

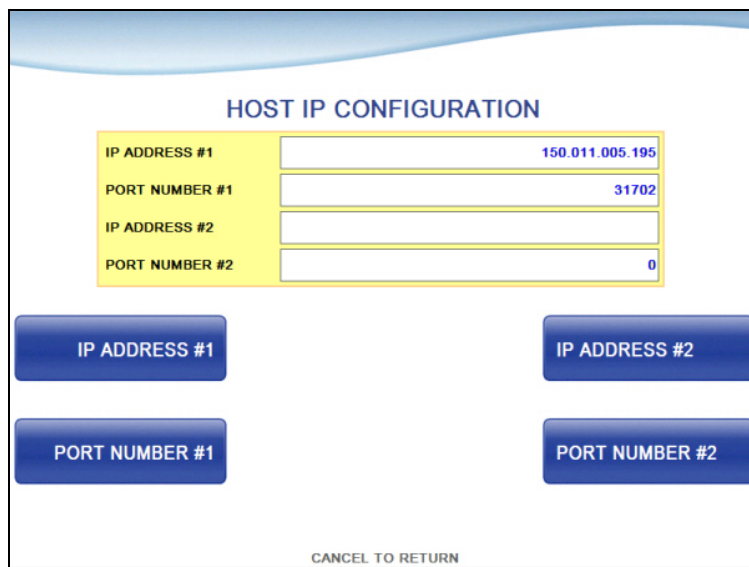
18) Select "HOST IP" menu in the HOST URL SETUP screen.



19) Select "IP ADDRESS #1", "PORT NUMBER #1", "IP ADDRESS #2", "PORT NUMBER #2" in the HOST URL SETUP screen and set input values individually

Notice : Be sure to input "0" in the blank.

For example, if the ADDRESS is "150.11.5.195", input "**150.011.005.195**".



20) After finishing all setting up, input "99" (IN SERVICE) on the pinpad and click "ENTER" in the main screen. Then ATM will be rebooted automatically with the "REBOTING" message shown.

G. Transaction Screen Flow

This chapter shows you the demonstration screen to test NH-1800CE ATM without connecting to host for your information.

G.1 DEMO TRANSACTION PROCESS

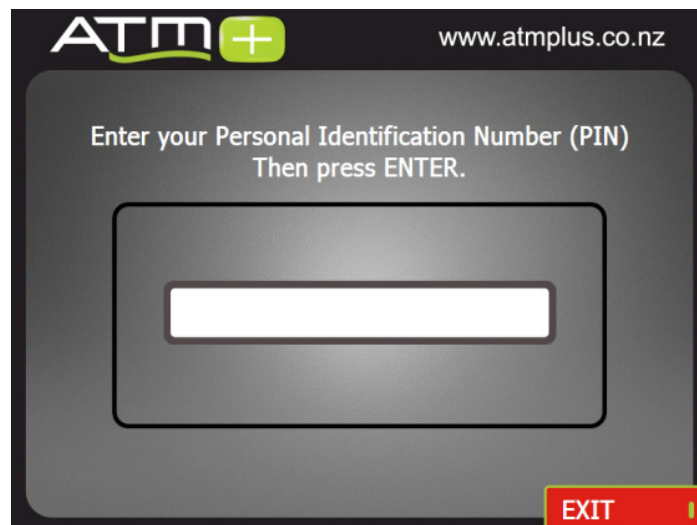
G.1.1 AP MAIN

This is a main AP screen and you can start to do transaction after inserting and quickly removing the card on card reader.



G.1.2 INPUT PASSWORD

This is a screen to enter the password of customer's card



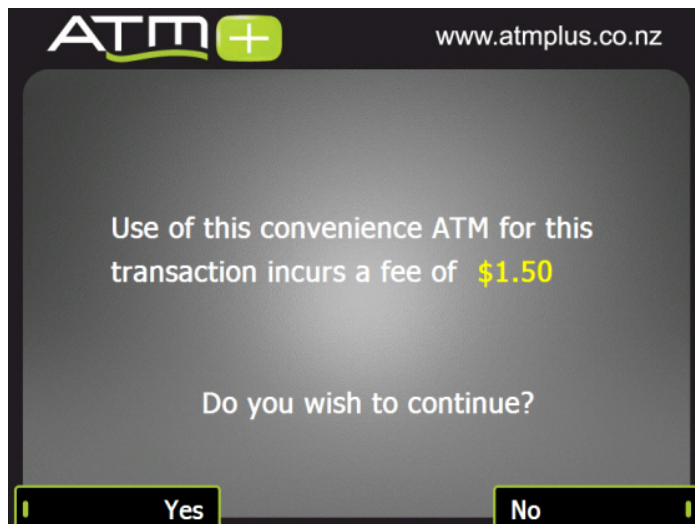
G.1.3 SELECT TRANSACTION

Any transaction type customer wants to transact such as withdrawal and balance inquiry is selected in this screen.



G.1.3.1 WITHDRAWAL: DISPLAY FEE

This screen is to show a customer the information of convenience fee.



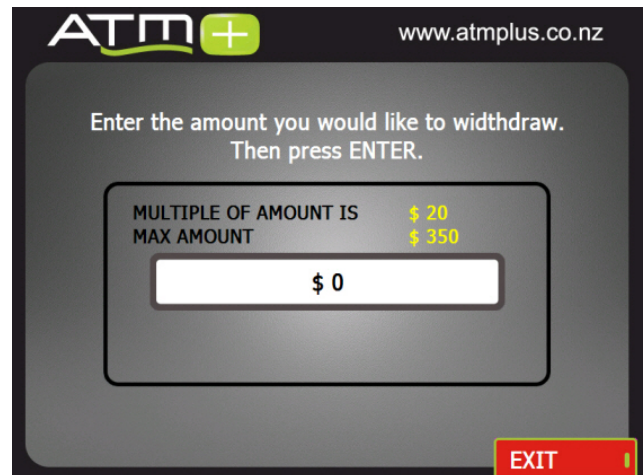
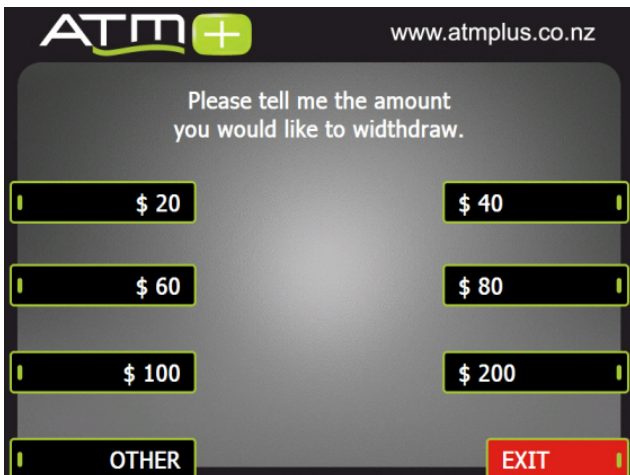
G.1.3.2 WITHDRAWAL: SELECT TO WITHDRAW FROM

This screen is to ask a customer where he wants to withdraw in checking, saving, credit card



G.1.3.3 WITHDRAWAL: SELECT THE AMOUNT OF WITHDRAWAL

This screen is to select the amount of withdrawal. If there is not any amount to withdraw, please select the OTHER key and can input the amount you would like to withdraw.



G.1.3.4. WITHDRAWAL: CONNECTING HOST

This screen is to show the customer that the transaction is in progress.



G.1.3.5. WITHDRAWAL: DISPENSING MONEY

This screen is to show the customer that your request amount is being dispensed



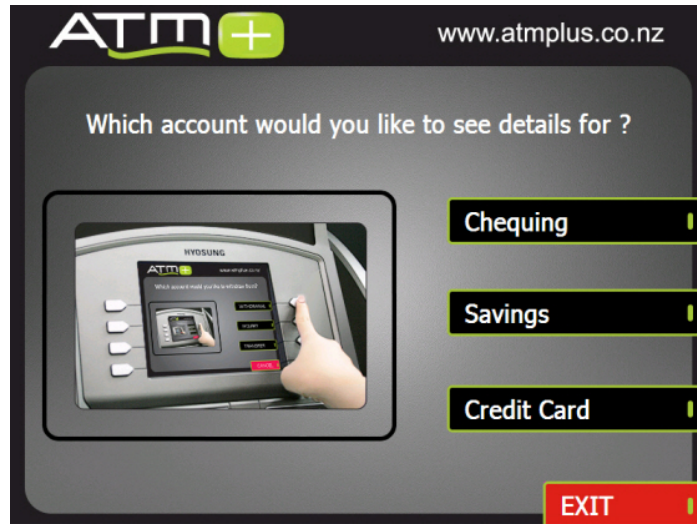
G.1.3.6. WITHDRAWAL: PLEASE TAKE RECEIPT

This screen is to show the customer that the transaction has been successfully completed and to notify the customer to take their receipt.



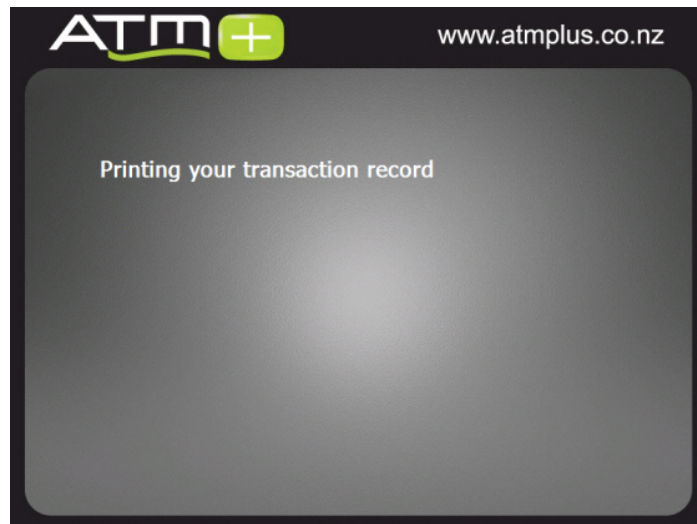
G.1.3.7. INQUIRY: SELECT ACCOUNT TO INQUIRE

This screen is to ask a customer which account he wants to inquire



G.1.3.8. INQUIRY: PRINTING TRANSACTION

This screen is to show the customer that it is printing transaction results.



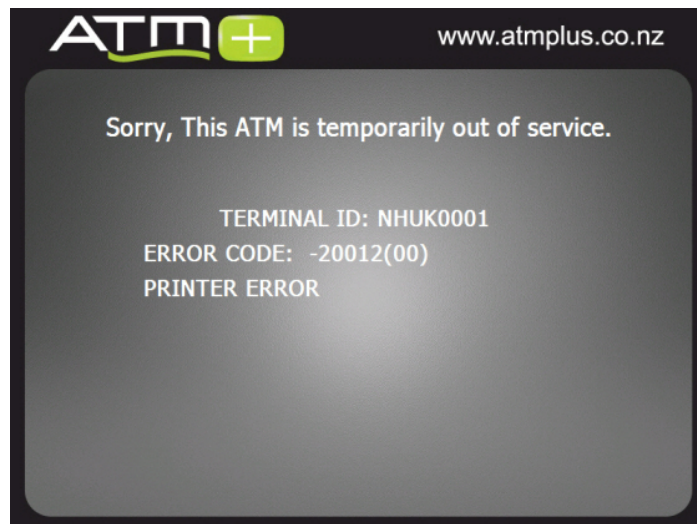
G.1.4 THANK YOU

This screen shows the customer that the customer request has been successfully completed.



G.1.5 OUT OF SERVICE

This screen notifies the customer the ATM is currently out of service and can not perform customer requests and transactions.



H. Supported USB Memory and HUB

H.1 USB Memory

H.1.1 Supported USB Memory

No.	Vendor	Modem Model	Memory	Remarks
1	Sony Corporation (VID:0x054C)	Storage Media (PID:0x0243)	512MB	
2	SMI Corportation (VID:0x090C)	USB Disk (PID:0x1000)	512MB	
3	Kingston (VID:0x0951)	Data Traveler (PID:0x1603)	512MB	
4	pq1 (VID:0x3538)	USB Mass Storage Device (PID:0x0042)	512MB	
5	LEXAR Media (VID:0x05DC)	JD FIREFLY (PID:0A560)	1GB	
6	LG (VID:0x090C)	USB Driver (PID:0x1000)	1GB	
7	Memorex (VID:0x12F7)	TD Classic 003B (PID:0x1A00)	1GB	

☞ VID : Vendor ID, PID : Product ID

H.1.2 Supported Memory Specifications

- 1) File System: FAT
- 2) Number of supported drivers: 1
- 3) Memory: 2GB or below

☞ Example 1) SANDisk 512MB is not supported because it has 2 file systems.

(CDFS and FAT)

- 2) Sony Storage Media is supported because it is FAT, 1 driver and 512 MB size.

H.2 Supported USB HUB Types

No.	Vendor	Modem Model	VID(HUB CHIP Vendor)	PID
1	Macsense Connectivity	UH-Mini4i	0x05E3(Genesys Logics inc)	0x0606
2	INLAND	Inland USB2.0 HUB	0x0409(NEC Corporation)	0x005A
3	VAKO International Inc	USB 2.0 Aluminum HUB	0x05E3(Genesys Logics inc)	0x0606
4	PPA Int'l	I.Connector(PPA 4Port HUB)	0x05E3(Genesys Logics inc)	0x0606
5	ZIO	USB 2040 Mini	0x05E3(Genesys Logics inc)	0x0606
6	DSP Inc	E-Star QU24WR	0x05E3(Genesys Logics inc)	0x0606

H.2 Supported USB HUB Types

No.	Vendor	Modem Model	VID(HUB CHIP Vendor)	PID
1	Macsense Connectivity	UH-Mini4i	0x05E3(Genesys Logics inc)	0x0606
2	INLAND	Inland USB2.0 HUB	0x0409(NEC Corporation)	0x005A
3	VAKO International Inc	USB 2.0 Aluminum HUB	0x05E3(Genesys Logics inc)	0x0606
4	PPA Int'l	I.Connector(PPA 4Port HUB)	0x05E3(Genesys Logics inc)	0x0606
5	ZIO	USB 2040 Mini	0x05E3(Genesys Logics inc)	0x0606
6	DSP Inc	E-Star QU24WR	0x05E3(Genesys Logics inc)	0x0606