

# Smart/RF Card Authentication System

Owner's Manual





**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK  
DO NOT REMOVE COVER (OR BACK)  
NO USER-SERVICEABLE PARTS INSIDE  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

**FCC (Federal Communications Commission)**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technical for help.

**WARNING:** This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

This device complies with Part 15 of the FCC's Rules. Operation is subject to the following two Conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesirable operation.

- A suitable conduit entries, knock-outs or glands shall be provided in the cable entries of this product in the end user.
- **Caution:** Danger of explosion if battery is incorrectly replaced. Replaced only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

- Holes in metal, through which insulated wires pass, shall have smooth well rounded surfaces or shall be provided with brushings.

**Warning:** Do not install this equipment in a confined space such as a bookcase or similar unit.

**Warning:** Wiring methods shall be in accordance with the National Electric Code, ANSI/NFPA 70.

**Warning:** This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

**Warning:** To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

**Caution:** This installation should be made by a qualified service person and should conform to all local codes.

**Caution:** To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

**Caution:** The apparatus should not be exposed to water (dripping or splashing) and no objects filled with liquids, such as vases, should be placed on the apparatus.

To disconnect power from the mains, pull out the mains cord plug. When install the product, ensure that the plug is easily accessible.



### **Disposal of your old appliance**

1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.
5. EEE Compliance with Directive.

Hereby, LG. declares that this LACT10-R, LACT10-S is in compliance with the essential requirements and other relevant provisions of directive 1999/5/EC.

**CE** This product is manufactured to comply with EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC.

European representative :

This class [B] digital apparatus complies with Canadian ICES-003 Get appareil numérique de la classe [B] est conforme a la norme NMB-003 du canada.

## Important Safety Instructions

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- 1. Read these instructions.** - All these safety and operating instructions should be read before the product is operated.
- 2. Keep these instructions.** - The safety, operating and use instructions should be retained for future reference.
- 3. Heed all warnings.** - All warnings on the product and in the operating instructions should be adhered to.
- 4. Follow all instructions.** - All operating and use instructions should be followed.
- 5. Do not use this apparatus near water.** - For example: near a bath tub, wash bowl, kitchen sink, laundry tub, in a wet basement; near a swimming pool; etc.
- 6. Clean only with dry cloth.** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners.
- 7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.** - Slots and openings in the cabinet are provided for ventilation, to ensure reliable operation of the product, and to protect it from overheating. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the manufacturer's instructions have been adhered to.
- 8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.**

## Important Safety Instructions

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9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

## Glossary

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LACT10  
Smart/RF Card Authentication System

### ■ Admin, Administrator

- As a user who can enter into the terminal menu mode, he/she can register/modify/delete terminal users and change the operating environment by changing settings.
- If there is no administrator for a terminal, anyone can change the settings, so it is recommended to register at least one administrator.
- Caution is required with registration and operation because an administrator has the right to change critical environmental settings of the fingerprint recognition unit.

### ■ Authentication Method

- Various kinds of authentication including RF(card) authentication, PW (password) authentication or a combination of these methods  
Ex) RFIPW : card or password authentication; ID&password is used for authentication if card is not used.

### ■ Function keys

- [F1], [F2], [F3], [F4] are used, and they are used for direct authentication and each key represents each authentication mode.

### ■ [NS] / [SN] / [NO] Mode

- [NS] Mode : When there is a live connection to the server, authentication is done through the server. If not, it is done through the terminal.
- [SN] Mode: Even though there is a live connection to the server, authentication is done through the terminal and the result is forwarded to the server in real time. However, in the case of 1:1 authentication, if the entered user ID is not registered in the server, authentication is done through the server.
- [NO] Mode : Even though a user is registered in the terminal, authentication is done through the server in any event.

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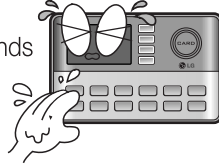

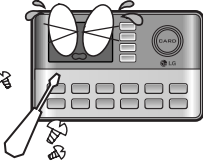

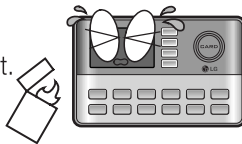

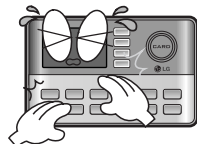


# 1. Before using

## 1.1. Safety precautions

- Under no circumstances will Union Community be responsible for accidents or damages caused by inappropriate use of the product caused by not referring to the user manual.

**Warning**

<p> Handling with wet hands or allowing liquid to flow into it is not advised. It may cause an electric shock or damage.</p> 	<p> Do not disassemble, repair, or modify the unit. It may cause an electric shock, fire or damage.</p> 
<p> Do not place a fire source near the unit. It may cause a fire.</p> 	<p> Keep out of reach of children. It may cause an accident or damage.</p> 


### Safety

If the above warnings are ignored, it may result in death or serious injury.

### Cautions


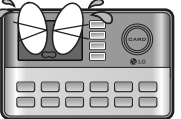
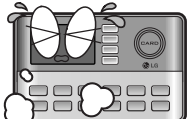
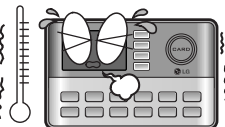

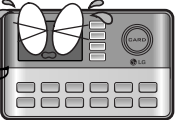

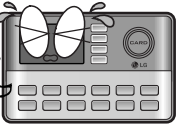
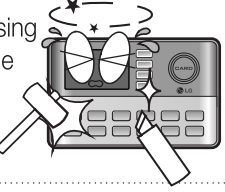
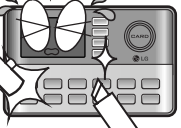
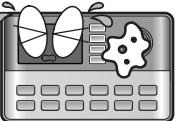
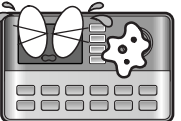
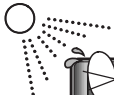
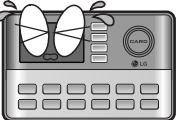

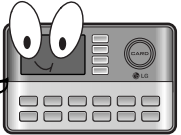
If the above cautions are ignored, it may result in property loss or human injury.

 The sign is a "Prohibition"

 The sign is that user should keep the manual

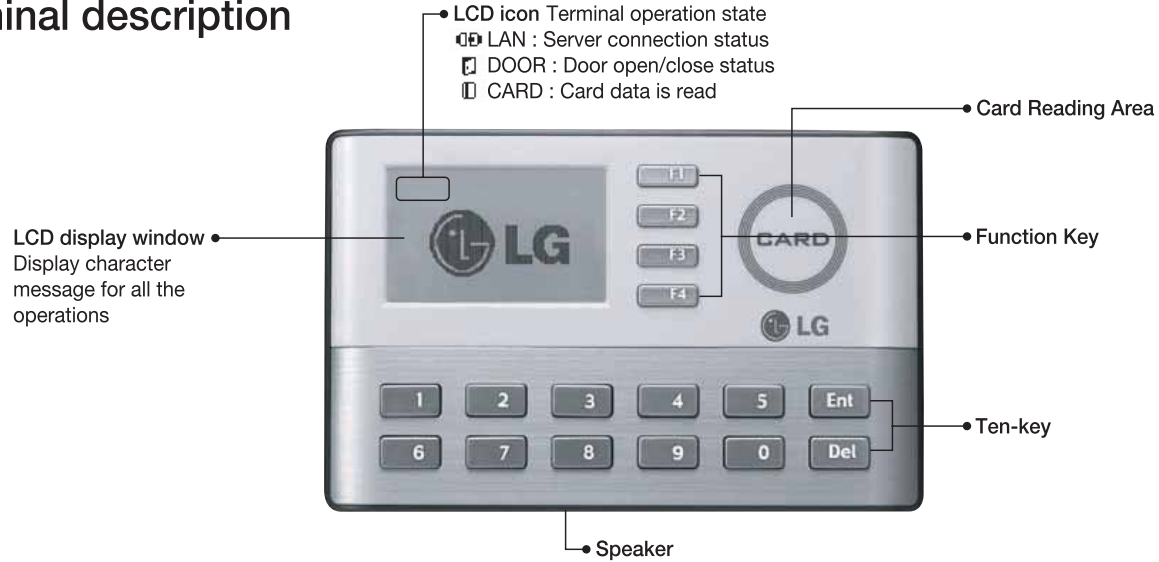
# 1. Before using

## ⚠ Cautions

<p>⚠</p> <p>Avoid using insecticides or flammable sprays near the unit.</p>   <p>It may result in deformation or color change.</p>	<p>⚠</p> <p>Avoid high humidity or dust.</p> <p>The unit may be damaged.</p> 	<p>⚠</p> <p>Avoid severe temperature changes.</p> <p>The unit may be broken.</p> 
<p>⚠</p> <p>Avoid using water, benzene, thinner, or alcohol for cleaning.</p> <p>It may cause an electric shock or fire.</p>  	<p>⚠</p> <p>Do not place a magnet close to the unit.</p> <p>The unit may break down or malfunction.</p>  	<p>⚠</p> <p>Avoid impacts or using sharp objects on the unit.</p> <p>The unit may be damaged and broken.</p>  
<p>⚠</p> <p>Do not contaminate the fingerprint input area.</p> <p>Fingerprints may not be well recognized.</p>  	<p>⚠</p> <p>Keep away from direct sunlight.</p> <p>It may cause deformation or color change.</p>  	<p>⚠</p> <p>Read the operators manual, any damage caused due to misuse will be the user's liability.</p>  

# 1. Before using

## 1.2. Terminal description



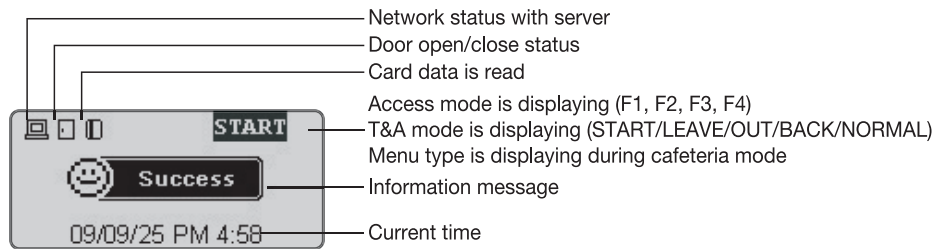
## 1.3. Button description

Function key	Access mode	T&A mode	Cafeteria mode
<b>F1</b>	F1	Start	Menu 1
<b>F2</b>	F2	Leave	Menu 2
<b>F3</b>	F3	Outside	Menu 3
<b>F4</b>	F4	Return	Menu 4

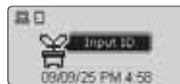
Function key	Description
<b>0</b>	Input number '0' value or Menu scroll button
<b>Ent</b>	Enter menu after pressing over 2sec
<b>Del</b>	Change setting. Move to upper menu. Return to normal mode

# 1. Before using

## 1.4. Screen description



- Initial screen.



- Waiting for a user's ID to be input.



- Password input.



- Authentication is successful.



- Authentication is failed.



- Entered a non-registered user ID.  
 - Connection method is [SN] and 1:N identification is accessed even though there is no user allowed for 1:N identification.



- A registered user tried authentication twice during same menu time when terminal is cafeteria mode.



- There is no response from the server during the authentication process.  
 - Network to server is disconnected during the authentication process.



- There is no user registered on the terminal or no connection to the server, so it is trying to connect.



- Ready status for card data input.



- A registered user tried authentication when entry/exit is not allowed.



- Waiting for server authentication.









- Terminal is locked.  
 - A registered user tried authentication when Cafeteria time is not allowed.



- Terminal program upgrade.  
 (Power switch should not be turned off when this message is displayed.)


# 1. Before using

## 1.5. LCD Icon during operation

Network status	 : LAN cable is not connected.
	 : LAN cable is connected, but server is not connected.
	 : Server is connected.
Door status	 : Door Close
	 : Door Open
Card input	 : Displayed 1sec after card data is read

## 1.6. Voice information during operation

"You are authorized"

 Authentication is successful.

"Please try again"


 Authentication is failed.

## 1.7. Buzzer sound during operation

Confirmation Tone (One beep)

 When a button is pressed or a card is being read.


Error Tone (Two short beeps)

 Authentication failed or wrong user input.

Beeping

 Waiting for fingerprint input

Confirmation Tone  
(Three short beeps)

 Authentication successful or settings for the current user are completed

## 2. Introduction

### 2.1. Features

**Access control system using LAN.**

- Communication between the terminal and authentication server is done through the TCP/IP protocol, so an existing LAN can be used as it is. It guarantees network-based administration and monitoring as well as easy expansion, high reliability, and higher speed.

**Simple and fast authentication process.**

**High capacity of terminal and server.**

- There is no limit on user registration for the server, and the terminal itself can store up to 20,000 card users.

**Various information messages.**

- It ensures easy fingerprint recognition because voice and LCD window information are provided during the authentication process. In addition, the backlight installed in the LCD window helps with easy key operation in the dark.

**Various and flexible Access controls.**

- Perfect control by assigning different security clearances to each user or group
- Provides flexibility by allowing limited time for entry/exit.

**Various applications including Access, T&A, Cafeteria management.**

- Various operation modes depending on the terminal menu settings.

**Various registration and authentication methods**

- There are a total of 5 registration and authentication methods, so you are required to select one method before registering users and an administrator.

RF	Card registration, Card authentication
ID&PW	Password registration, Password authentication
RF&PW	Card and password registration, Card or password authentication.
RF&PW	Card and password registration, Password authentication after card authentication.
ID&PW&RF&PW	Card and password registration, Password authentication after ID input or Password authentication after card authentication.

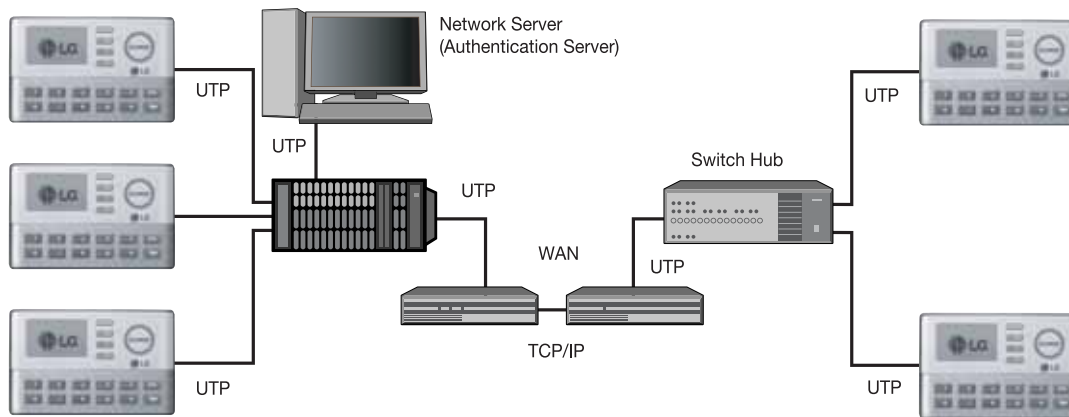
※ RF defines '125KHz Proximity Card' or '13.56MHz Smart Card'.

## 2. Introduction

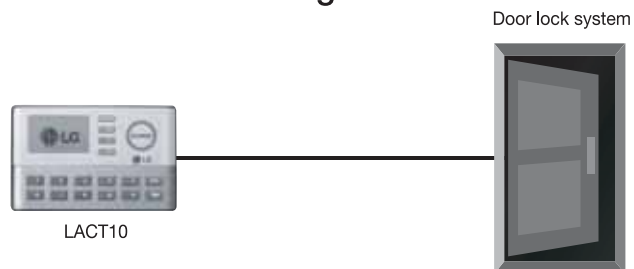
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### 2.2. Configuration

#### 2.2.1. Network configuration



#### 2.2.2. Standalone configuration



## 2. Introduction

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### 2.3. Specifications

Item	SPEC	REMARK
CPU	32Bit RISC CPU	
MEMORY	8M SDRAM	
	2M FLASH (Default)	User: 10,000 / Log: 20,000
	4M FLASH (Option)	User: 20,000 / Log: 98,000
Authentication speed	< 0.2 sec.	
Communication Port	TCP/IP, Wiegand In&Out	
	RS-232, RS-485, 2 Relay	
Temperature / Humidity	-10 ~ 50 / Lower than 90% RH	
LCD	128 X 64 Graphic LCD	
SIZE	140 X 89 X 28 mm	
AC / DC Adapter	INPUT : Universal AC 100 ~ 220V	
	OUTPUT : DC 12V (Option : DC 24V)	
	UL, CSA, CE Approved	
Card Reader	RF Card Reader (LACT10-R)	EM Card, 125kHz
	Smart Card Reader (LACT10-S)	ISO 14443 A-type, 13.56MHz



## 3. Environment settings

### 3.1. Check items before setting the environment

#### 3.1.1. Entering menu

The following screen appears when the [ENT] button is pressed for over 2 sec.



1. User  
2. Network  
3. Option

- Press [0] to view menus not shown in the LCD window.
- If a number corresponding to the menu required is pressed (ex. [1] for user account), the following screen for administrator authentication appears.



<Input Admin ID>  
ID : 0001

- Press [ENT] after entering the administrator's ID and the administrator authentication is processed according to the previous setting such as fingerprint authentication or password authentication. If authentication is successful, sub-menus of the menu chosen appear.

※ Administrator authentication is required only once, so all menus are accessible until he exits from the menus altogether.

## 3. Environment settings

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### 3.1.2. Change settings

To change settings, press the [DEL] button to delete old values and input new values.



Press [0] to see menus not shown in the LCD window, and press the corresponding number to select a menu.



Press [ENT] for settings verification or to move to the next setting, and press the [DEL] button to move to upper menus.



Hold the [DEL] button for over 2 sec. to cancel the current setting and move to the upper menu.

## 3. Environment settings

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### 3.1.3. Save environment settings

Press the [DEL] button in the main menu to save environment settings and the following screen appears



Save?  
[Y=1/N=2] :

Press [1] to save changes.  
If not, press [2].



If there are no changes made to the settings, "Save?" does not appear, and the initial screen appears.

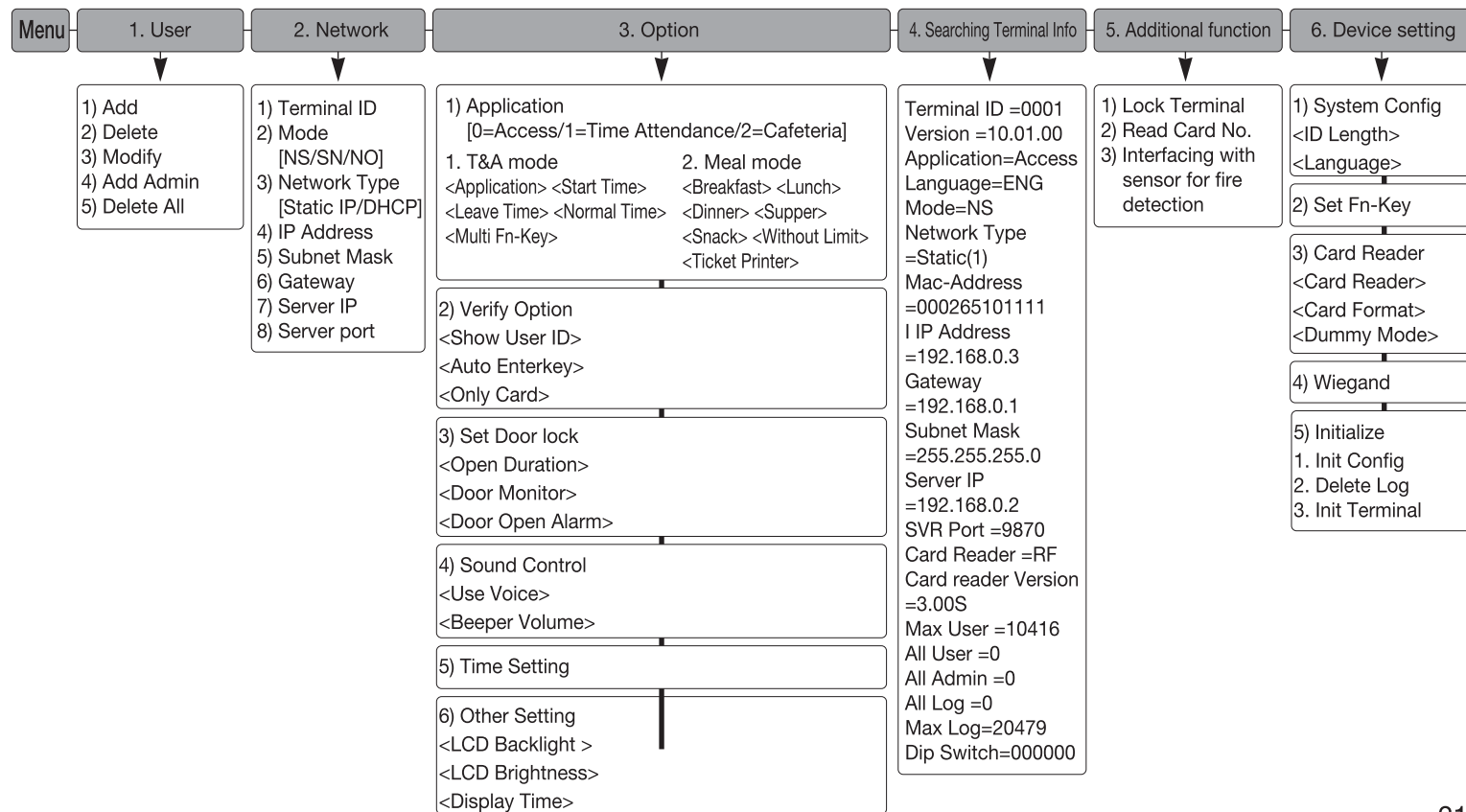


If there is no input for a certain period of time while setting the environment, the settings process will finish. If there are changes made to the settings, "Save?" appears. If not, it does not appear and the initial screen appears.

### 3. Environment settings

#### 3.2. Menu configuration

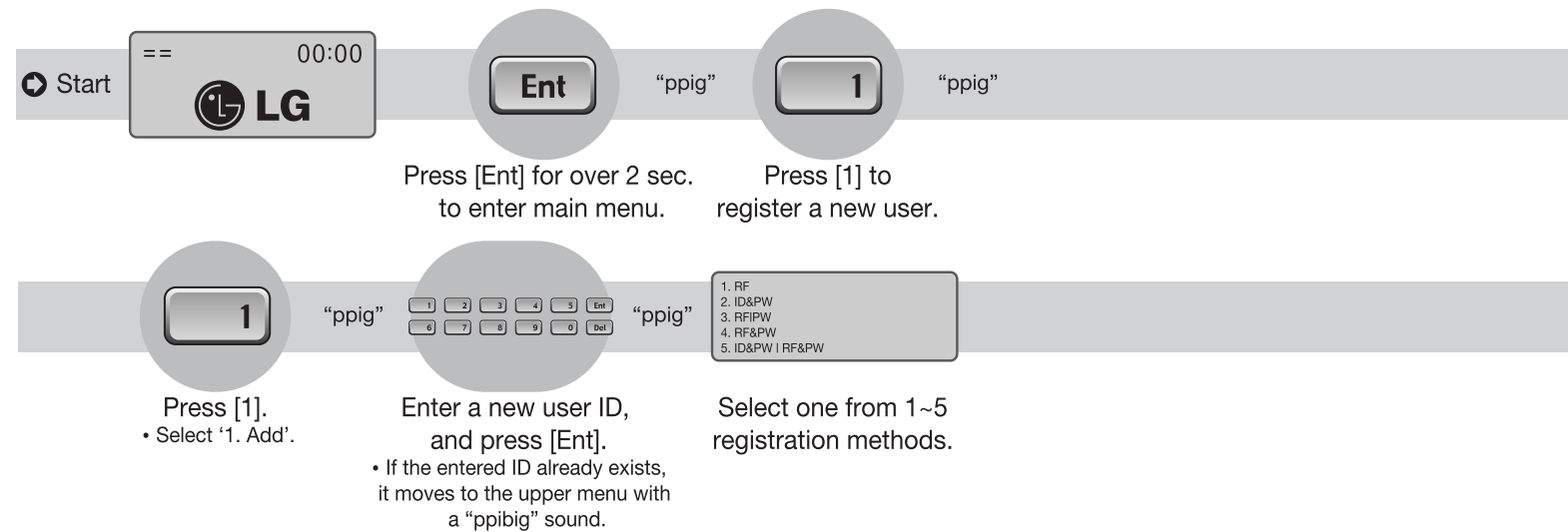
☐ Press [Ent] for over 2 sec. to enter the menu.



## 3. Environment settings

### 3.3. User account

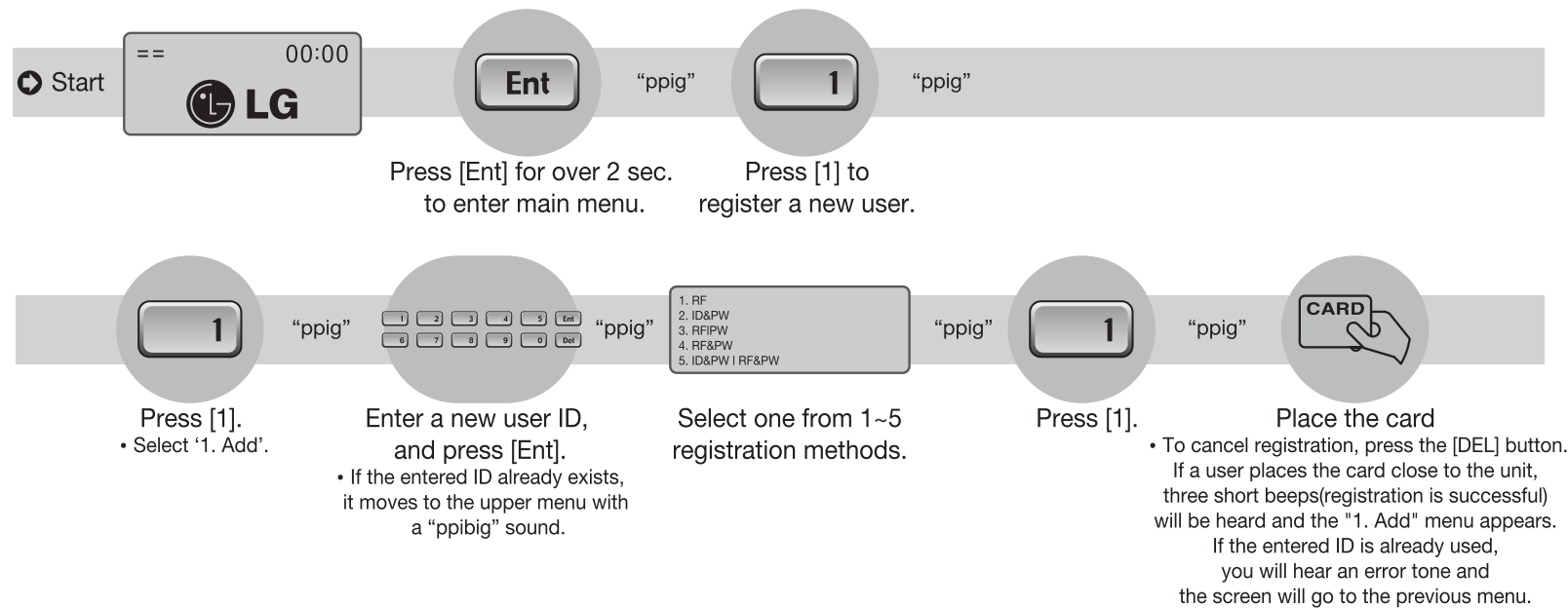
#### 3.3.1. User registration



## 3. Environment settings

### 3.3.1.1. "1. RF" registration

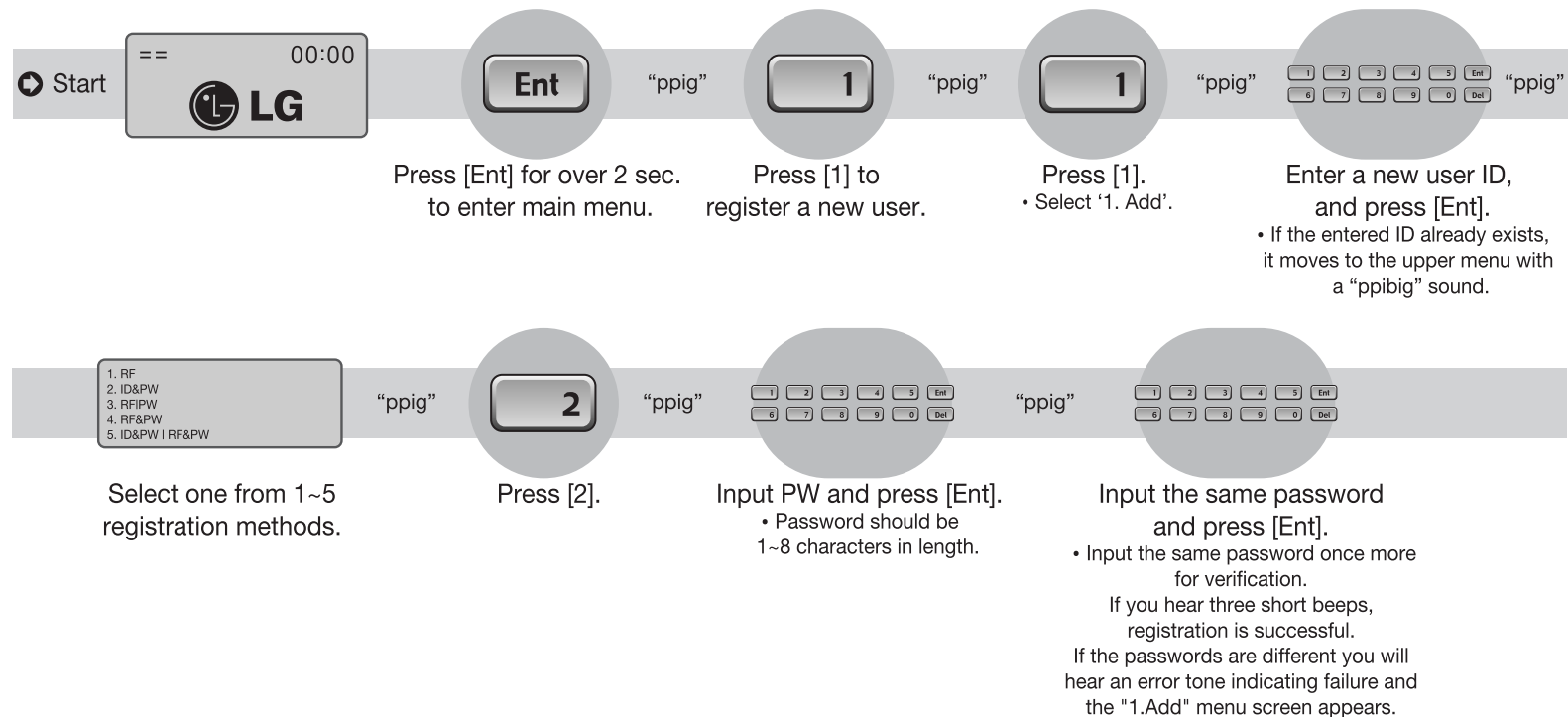
Fingerprint registration and fingerprint authentication.



## 3. Environment settings

### 3.3.1.2. “2. ID&PW” registration

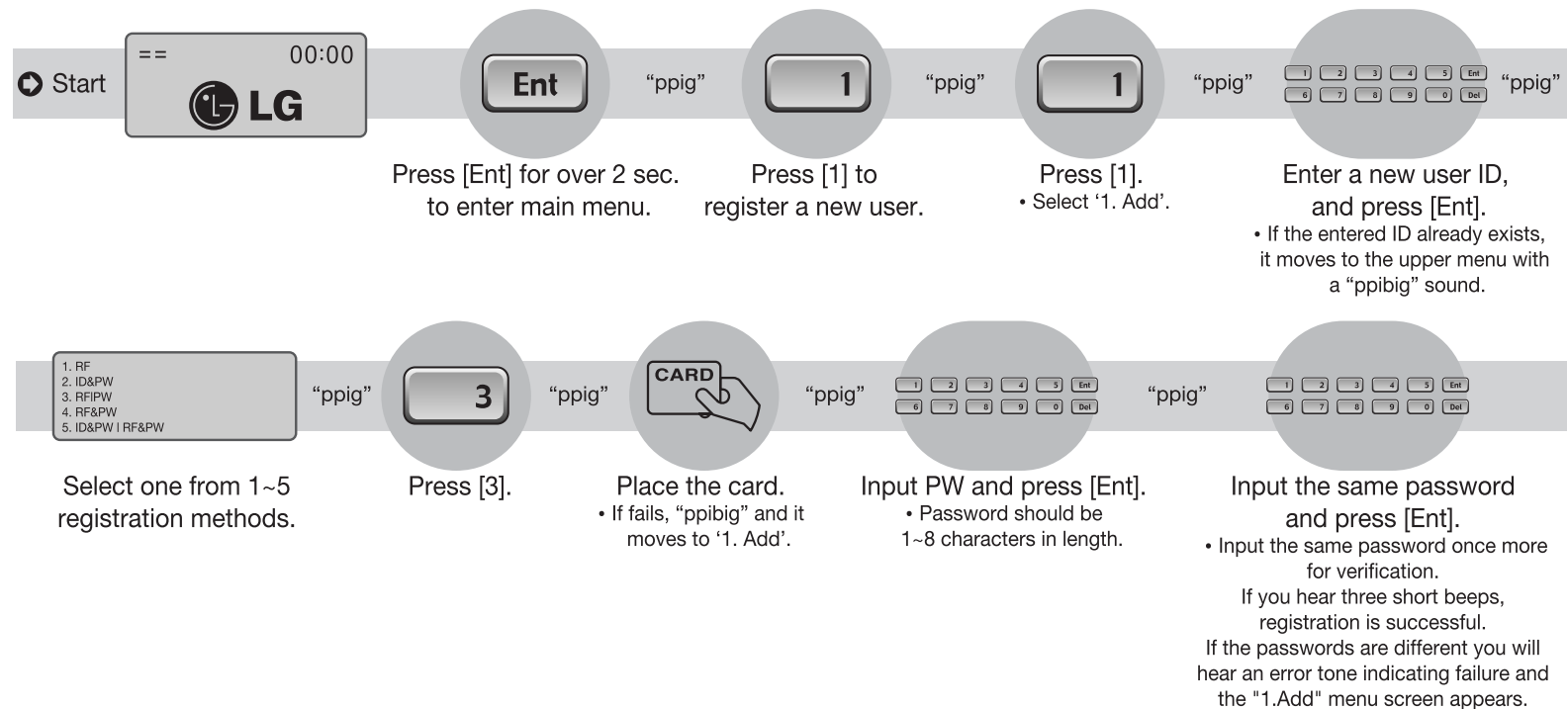
□ Password registration and password authentication for a user.



## 3. Environment settings

### 3.3.1.3. “3. RFIPW” registration

Card and password registration, card or password authentication.

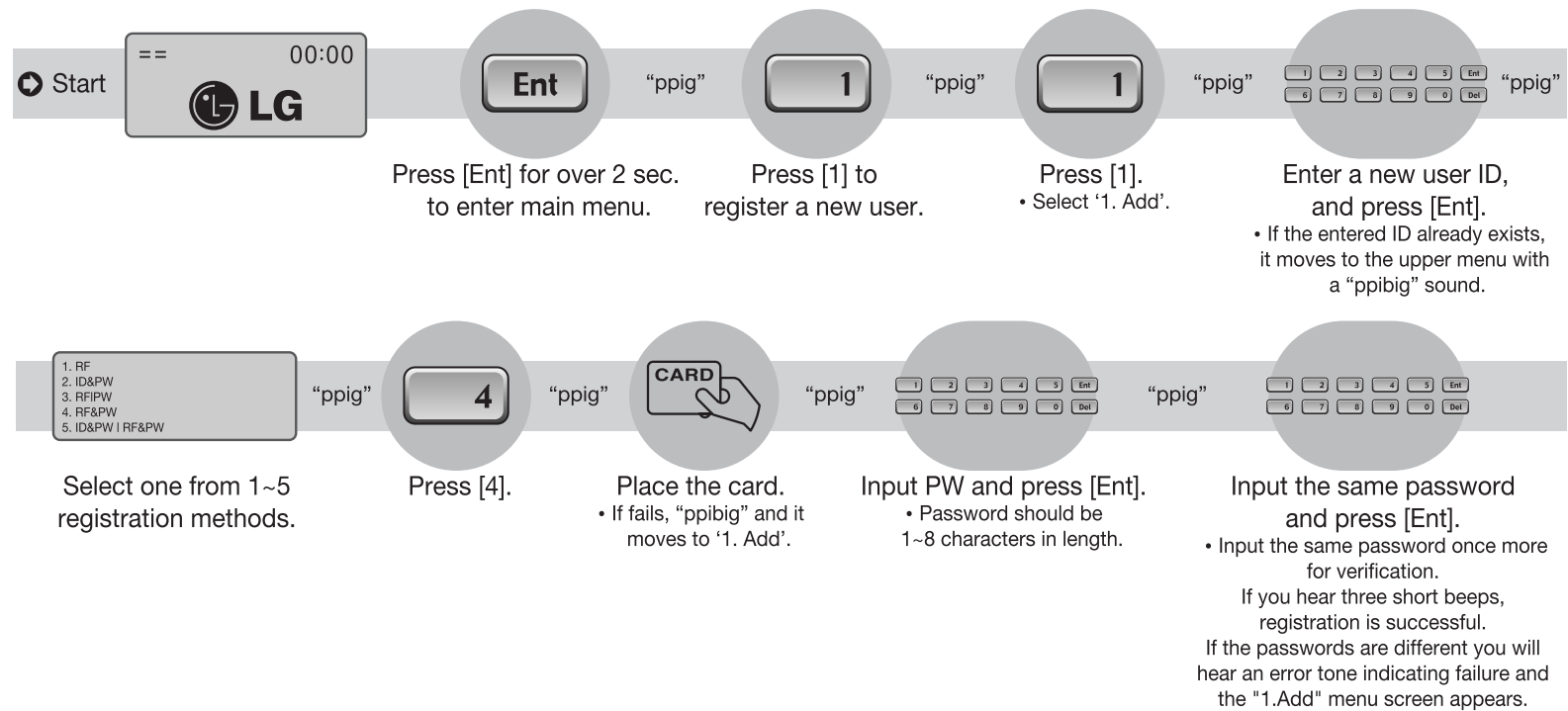




## 3. Environment settings

### 3.3.1.4. “4. RF&PW” registration

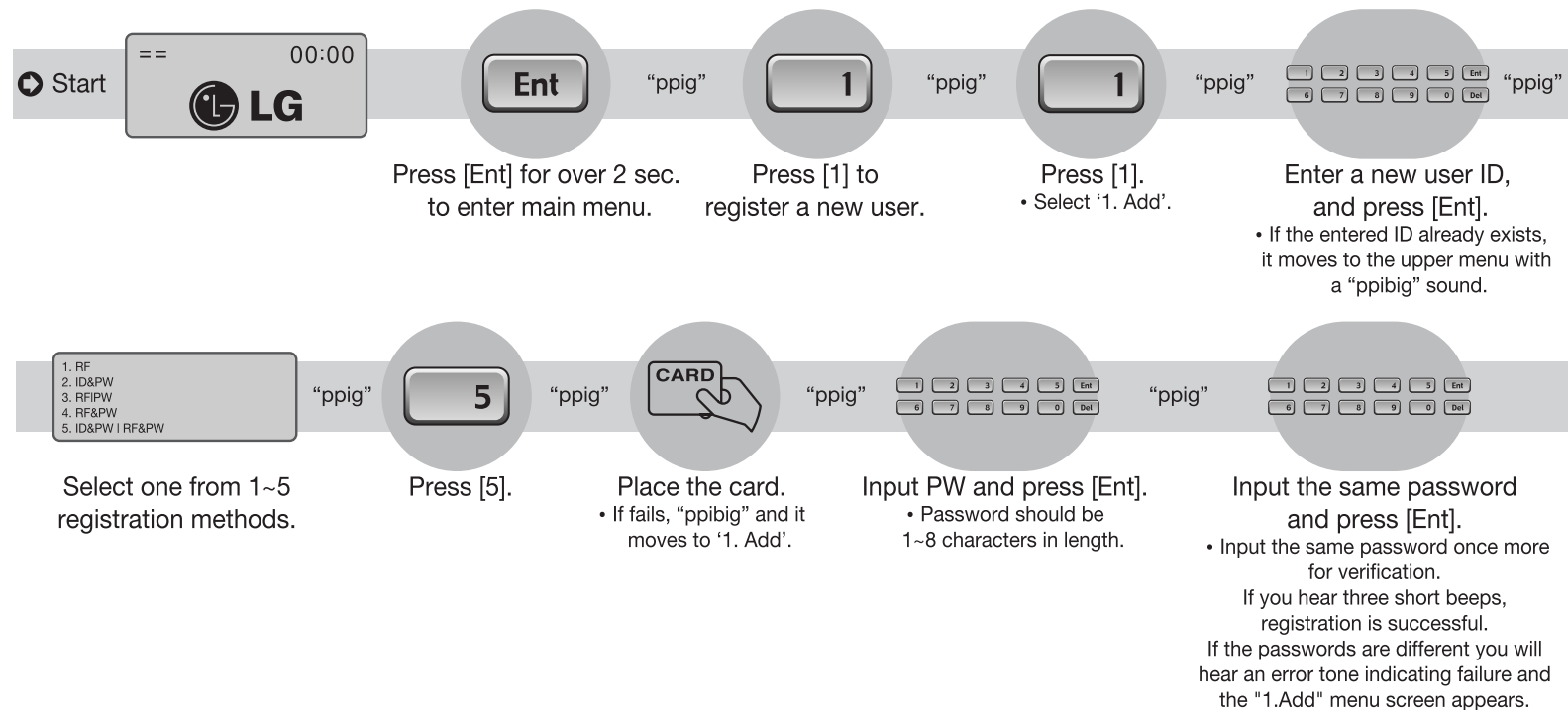
Card and password registration, card and password authentication.



## 3. Environment settings

### 3.3.1.5. “5. ID&PWIRF&PW” registration

□ RF-Card and password registration, ID input and password authentication or card and password authentication.



※ After Card registration (refer to “1. RF” registration), password registration (refer to “2. ID&PW” registration) follows.

※ In this case, a card is used instead of ID for authentication. This is helpful to users who have difficulty inputting their ID.