

LX505 LX505SR

Proximity / PIN
Access Controller



IDTECK

Table of Contents

Table of Contents	ii
1 Safety Information	1
1 IMPORTANT SAFETY INSTRUCTIONS	3
2 General	4
3 Features	5
4 Specification	6
5 Identifying Supplied Parts	8
6 Product Overview	9
1 Features	9
2 Product Explanation	11
2.1 Panel Description	12
2.2 Connection Layout	12
2.3 Color Coded & Wiring Table	13
7 Installation Tips & Check Points	14
1 Check Points before Installation	14
1.1 Selection of Cable	14
1.2 Recommended Cable Type and Permissible Length	15
2 Check Point during Installation	15
2.1 Termination Resistor	15
2.2 How to Connect Termination Resistors	16
2.3 Grounding System for Communication Cable	16
2.4 Reverse Diode Connection	17

8	Installation of Product	18
1	Wall Mount (Unit: mm)	18
2	System Initialization	19
3	Wall Mount Installation	19
4	Wiring	20
4.1	Power Connection	20
4.2	Input Connection	20
	Exit Button Connection	20
	Door Contact Sensor Connection	20
	Auxiliary Input Connection	20
	2.2K Resistor Connection for Cut off Check	21
4.3	Output Connection	21
	Door Lock (Power Fail Safe) Connection (Door Relay)	21
	Door Lock (Power Fail Secure) Connection (Door Relay)	21
	Alarm Device Connection (Alarm Relay)	21
4.4	External Reader Connection	22
	Proximity Reader Connection	22
	Compatible Readers (External Reader):	22
	LX505:	22
	LX505SR:	22
	Recommended Readers	23
	LX505	23
	LX505SR	23
9	Communication	24
1	RS232 Communication Port Connection	24
2	RS485 Communication Port Connection	25
2.1	RS485 Connection (Standalone Unit)	25
2.2	RS485 Connection (Multiple Units)	25
3	TCP/IP Communication Port Connection (Optional)	26
4	Serial Printer Connection	27
10	Basic Setting	29
1	Initialization of LX505	29
2	How to Enter the SETUP MENU	30
3	Language Setting	30
4	Date / Time Setting	31

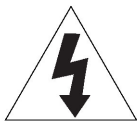
5	ID Registration	31
5.1	Registration by Card	32
5.2	Registration Using Keypad(PIN)	32
5.3	Terminology	32
11	OPERATIONS	35
1	Normal Operation	35
2	Default Setting	35
12	Setting Changes	36
1	F1 SETUP MENU	37
1.1	Language	38
1.2	Date and Time Setting	38
1.3	Reader #1 Mode	38
1.4	Reader #2 Mode	39
1.5	Reader #1 KEY Input	39
1.6	Reader #2 KEY Input	39
1.7	Communication Address Setting	40
1.8	Baud Rate Setting	40
2	F2 SETUP MENU	41
2.1	Event Memory	42
2.2	ID Display	42
2.3	Time Unit Setting	43
2.4	Output T/S + ID	43
2.5	Anti-passback Mode	44
2.6	Duress Mode	45
2.7	Wiegand Output	45
2.8	Door Open Alarm Time Setting	46
3	F3 SETUP MENU	47
3.1	Print Output	47
3.2	Voice Volume	48
3.3	Arm/Disarm Setting	49
3.4	Two Men Mode	49
3.5	One Time Read	50
3.6	Max. User Setup	50
3.7	Name Display	50
4	F4 SETUP MENU	51

4.1 Time Schedule	52
4.2 Holiday Setting	52
4.3 Holiday Code	53
4.4 Reader#1 Mode Time Schedule	53
4.5 Reader#2 Mode Time Schedule	54
4.6 Voice Time Schedule	54
5 F5 SETUP MENU	55
5.1 Exit Button Output Setting	56
5.2 Door Contact Output Setting	57
5.3 Aux Input#1 Output Setting	57
5.4 Aux Input#2 Output Setting	57
5.5 Tamper Alarm Output Setting	57
5.6 Cut Off Alarm Output Setting	57
5.7 Duress Alarm Output Setting	57
5.8 Arm/Disarm Output Setting	57
5.9 Door Time Output Setting	57
5.10 Output Time Schedule Setting	57
5.11 Input Time Schedule Setting	58
5.12 Cut Off Check Setting	59
5.13 Input Type Setting	59
6 F6 SETUP MENU	60
6.1 Output Setting for Reader#1 ID OK Level 1	61
6.2 Output Setting for Reader#1 ID OK Level 2	62
6.3 Output Setting for Reader#1 ID OK Level 3	62
6.4 Output Setting for Reader#1 ID OK Level 4	62
6.5 Output Setting for Reader#1 ID Error	62
6.6 Output Setting for Reader#1 T/S Error	62
6.7 Output Setting for Reader#1 APB Error	62
6.8 Output Setting for Reader#2 ID OK Level 1	63
6.9 Output Setting for Reader#2 ID OK Level 2	63
6.10 Output Setting for Reader#2 ID OK Level 3	63
6.11 Output Setting for Reader#2 ID OK Level 4	63
6.12 Output Setting for Reader#2 ID Error	63
6.13 Output Setting for Reader#2 T/S Error	63
6.14 Output Setting for Reader#2 APB Error	63
7 F7 SETUP MENU	64

7.1 ID Registration	64
Registration by Card	64
Registration Using Keypad	65
Terminology	65
7.2 ID Delete	66
7.3 ID List	67
7.4 Master ID Registration	67
Master ID Registration by Card	68
Master ID Registration by PIN	68
7.5 Registered ID Count	68
7.6 Event Count	69
8 F8 SETUP MENU	69
8.1 System Initialization	70
8.2 Event Clear	70
8.3 All ID Clear	71
8.4 Master ID Clear	71
8.5 Time Schedule Clear	71
8.6 Default Setting	72
9 F9 SETUP MENU	73
9.1 Firmware Version Check	73
9.2 Input Test	74
9.3 Output Test	74
9.4 LCD Test	74
9.5 Keypad Test	75
9.6 Reader Test	75
9.7 Memory Test	75
9.8 Communication Test	76
13 Appendix	77
1 A. THE RELATION BETWEEN INPUT AND OUTPUT (DEFAULT)	77
2 TROUBLESHOOTING	79
14 FCC REGISTRATION INFORMATION	83
15 RMA Request	84

Safety Information

1



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 symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.



This exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

WARNING

1. Be sure to use only the standard adapter that is specified in the specification sheet. Using any other adapter could cause fire, electrical shock, or damage to the product.
2. Incorrectly connecting the power supply or replacing battery may cause explosion, fire, electric shock, or damage to the product.

3. Do not connect multiple controllers to a single adapter. Exceeding the capacity may cause abnormal heat generation or fire.
4. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.
5. When installing the controller, fasten it securely and firmly. The fall of controller may cause personal injury.
6. Do not place conductive objects (e.g. screwdrivers, coins, metal parts, etc.) or containers filled with water on top of the controller. Doing so may cause personal injury due to fire, electric shock, or falling objects.
7. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock.
8. If any unusual smells or smoke come from the unit, stop using the product. In such case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.
9. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way. (SAMSUNG is not liable for problems caused by unauthorized modifications or attempted repair.)
10. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock.

CAUTION

1. Do not drop objects on the product or apply strong blows to it. Keep away from a location subject to excessive vibration or magnetic interference.
2. Do not install in a location subject to high temperature (over 50°C), low temperature (below -30°C), or high humidity. Doing so may cause fire or electric shock.
3. If you want to relocate the already installed product, be sure to turn off the power and then move or reinstall it.
4. Remove the power plug from the outlet when there is a lightning storm. Neglecting to do so may cause fire or damage to the product.
5. Keep out of direct sunlight and heat radiation sources. It may cause fire.
6. Install it in a place with good ventilation.
7. Avoid aiming the controller directly towards extremely bright objects such as sun.
8. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
9. The Mains plug is used as a disconnect device and shall stay readily operable at any time.

1 IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.
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 is 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 cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.
13. Unplug this apparatus when a card is used. Use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
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.

The IDTECK LX505 / LX505SR is ideal to be used for Single Door Access Control and Time & Attendance. The IDTECK LX505 / LX505SR has 4 input ports, 2 Form-C relay outputs, 2 TTL outputs, an RS232/RS485 communication port and an optional TCP/IP communication port to meet various customer requirements.

This user-friendly device allows you to register up to 10,000 IDs and 20,000 event transactions. All events can be uploaded and saved to the database of the host PC and the software can create a report in the MS-Excel, HTML and Text file formats for Time & Attendance management purposes.

The IDTECK LX505 / LX505SR has a built-in proximity card reader with IDC 26bit Wiegand format and a 24-key keypad (10 numeric keys, 2 control keys and 12 function keys) for a wide range of applications. The IDTECK LX505 / LX505SR controls access of users with any selected combination of Proximity Card/PIN and/or password. The IDTECK LX505 / LX505SR has 4 external input ports to be connected to an exit button, a motion detector, a door contact sensor and an existing alarm system to prevent unauthorized access.

The IDTECK LX505 / LX505SR has 2 relay outputs to control a door lock and an alarm relay that is used to warn any error. The graphic LCD supports multiple languages so that the unit can be operated anywhere in the world.

All setup menus can be programmed using the front keypad or via the Windows-based software. The IDTECK LX505 / LX505SR is a cost effective system that can be used stand alone or networked. Dual tamper switches prevent unauthorized access.

Features

3

- 125KHz(default) proximity/13.56MHz(optional) contactless smart card reader and PIN
- Dual function for Access Control and Time & Attendance
- Register 10,000/20,000 Users & 20,000/10,000 Event Buffers (Selectable)
- Operating Mode selectable for each user ID
- 4 Level Door Open Time Setting for Individual ID
- Time Schedules Setting for each user ID, input port, output port and Reader Mode
- Network Communication via RS232, RS485 and built-in TCP/IP
- 26bit Wiegand Output (34bit for LX505SR) / Baud rate : 57,600bps
- Serial Printer Port for event ticket issuing
- Supervised Input Cut-off Check
- User Name & Function Key Definition Display on LCD
- ARM/DISARM Function for Alarm Panel
- 2 Men Operation Mode
- Duress Alarm Function
- Multiple Master IDs Registration
- Able to Activate Time Schedule using User Card
- Graphic LCD of Multi Languages Display
- Voice Guide Programmable for Other Language
- Compatible Software : STARWATCH TIME PRO, STARWATCH LX ACCESS PRO II, STARWATCH STANDARD
- 13.56MHz Contactless SMART Card Access Controller(LX505SR)

Specification

4

Model	LX505
CPU	8bit and 16bit Microprocessor
Memory	Program Memory 256K Byte ROM, 512K Byte SDRAM
	Data Memory 512KByte Flash Memory
User	10,000 / 20,000 ID Users (Selectable)
Event Buffer	10,000 / 20,000 Event Buffers (Selectable)
Range	LX505 IDC80 / IDC170 : Up to 4 inches (10cm) LX505SR IHC80: Up to 2 inches (5cm) ISC80: Up to 4 inches (10cm)
Reading Time (Card)	30ms
Power / Current	DC 12V / Max.550mA
	LX505: 1 Port for Anti-Pass Back (26bit Wiegand, 8bit Burst for PIN) LX505SR: 1 Port for Anti-Pass Back (34bit Wiegand, 8bit Burst for PIN)
Communication	RS232 / RS485 (Max.32ch) TCP/IP (Internal LAN Converter required (Optional))
Baud Rate	57,600bps (Default) / 9,600bps / 19,200bps / 38,400bps (selectable)
	4 Ports : Exit Button, Door Sensor, Aux# 1, Aux#2
	2 Ports : 2 FORM-C Relay Output (COM, NO, NC) / DC12V~18V, Rating Max.2A
	2 Ports :TTL Output

/ DC5V, Rating Max.20mA		
LCD		Graphic LCD (128 x 64 dots) 72.5mm x 39.5mm (2.85" x 1.56")
Keypad		24-key Keypad with Back Lighting (12 Function Keys included)
Language	LCD Display	English, Spanish, Portuguese (Selectable) Arabic, Chinese, Korean, Japanese (Optional)
	Voice Output	English(Default), Spanish, Portuguese, Arabic, Chinese, Korean, Japanese (Programmable)
LED Indicator		3 Array LED Indicators (Red, Green and Yellow)
Beeper		Piezo Buzzer
Operating Temperature	LCD	0 to +50C (+32 to +122F)
	Controller	-15 to +70C (+5 to +158F)
	RF Reader	-35 to + 65C (-31 to +149F)
Operating Humidity		10% to 90% relative humidity (non-condensing)
Color / Material		Black, Red Wine, Silver, Dark Gray, Black & Gold Combo / Polycarbonate
Dimension (W x H x T)		192mm x 160mm x 45mm (7.56"x6.29"x1.77mm)
Weight		800g(1.76lbs)
Certification		FCC, CE, KC

Identifying Supplied Parts

5

Please unpack and check the contents of the box. If any of these parts are missing, please contact a near-by distributor or IDTECK as soon as possible.



Main Unit	Wall Mount	Screws	Cable & Diode & Resistor	User's Manual
1 Unit	1 PC	3x8mm – 1 PCS 3.5x12mm – 4 PCS 3.5x40mm – 4 PCS	Cable – 6 PCS Diode – 2 PCS Resistor – 4 PCS	1 Copy

1 Features

Standalone Operation

The IDTECK LX505 / LX505SR is capable of having an external reader (for 1 Door Control). This access controller reads card ID numbers and determines whether to allow or deny access to the door. When an input signal is received, for example from a sensor activated or an exit button pressed, the controller generates and logs an appropriate response. All events are stored into the memory buffers. The access controller is a true standalone device that, in the event of malfunction, will not affect other units when used in conjunction with one another.

Operation with Host PC

All event transactions can be managed via the host PC. The data transmitted from the controller can be displayed and stored on the host PC.

Keypad

If the IDTECK LX505 / LX505SR is not connected to the host PC, the built-in keypad and LCD module can be used for the entire operations and configuration process.

Input / Output

The IDTECK LX505 / LX505SR has 4 built-in input ports and 4 output ports (2 relay outputs and 2 TTL outputs) which can be used to manipulate a wide variety of controls.

Time Schedule Setup

You can program up to 10 time schedules and assign one time schedule to each user. Each time schedule has 8 different time zones from Monday-Sunday (7 time zones) and one holiday. Each time zone has 5 different time codes so you can program 5 different time codes for each day. You can also program time schedules for individual inputs and outputs. That is, if a time schedule for an input device is activated, that input device will be working only during the time assigned by that time code. Each time schedule is linked to one holiday schedule.

Holiday Schedule Setup

Excepting Sunday, you can program 100 holidays to one holiday schedule. Each holiday schedule is linked to one time schedule which has a time code for holidays. You can program all holidays to a holiday schedule and the time code for holidays is programmed to be the holiday time zone of time schedule.

Example:

- A. Holiday schedule 01 linked to time schedule 01,
Holiday schedule 02 linked to time schedule 02
- B. Holiday schedule 02 linked to time schedule 01,
Holiday schedule 01 linked to time schedule 03

Forced Door Open Alarm

When the door is opened by force, the door contact sensor will be activated. For this application, you have to install the door contact sensor and properly set the door contact time and outputs to the alarm devices. The Forced Door Open Alarm will be generated until the alarm is disconnected.

Door Open Timeout Alarm

The Door Open Timeout Alarm will be generated when the door is open for longer than a certain time limit, even after the door is opened followed by a normal authentication process. The Overtime Door Open Alarm will continue to ring until the door is closed.

Anti-pass Back

If an additional proximity reader is used, the Anti-pass back mode can be applied. In the Anti-pass back mode, a user is not allowed to enter or exit when the user violates the one entry/one exit rule. For example, an identical user won't be able to enter if he or she previously exited the door without going through a proper authentication process.

Duress Alarm

In case of duress, enter the 2-digit Duress Password and press the <ENT> key before the normal access process. The door can be opened as usual, but the duress alarm is also generated at the same time. The duress alarm output will be sent to the TTL output and an alarm event will be sent to the host PC.

ARM / DISARM Function for Alarm Panel

While a device is in the ARM condition, its reader ports are all frozen and inputs to the ports are not processed so that no one can get access to the door. When this mode is applied, the IDTECK LX505 / LX505SR sends signals to other connected security devices so that they can function accordingly.

Two Men Operation

This feature is used to configure the IDTECK LX505 / LX505SR to allow a certain user (e.g. a visitor) to pass the door only when that user is accompanied by another special user (e.g. a guide). Both of the visitor and the guide should be authorized together for access.

4 Level Individual Door Opening Time Setting

This feature is used only for setting four different door opening times.

Name Display

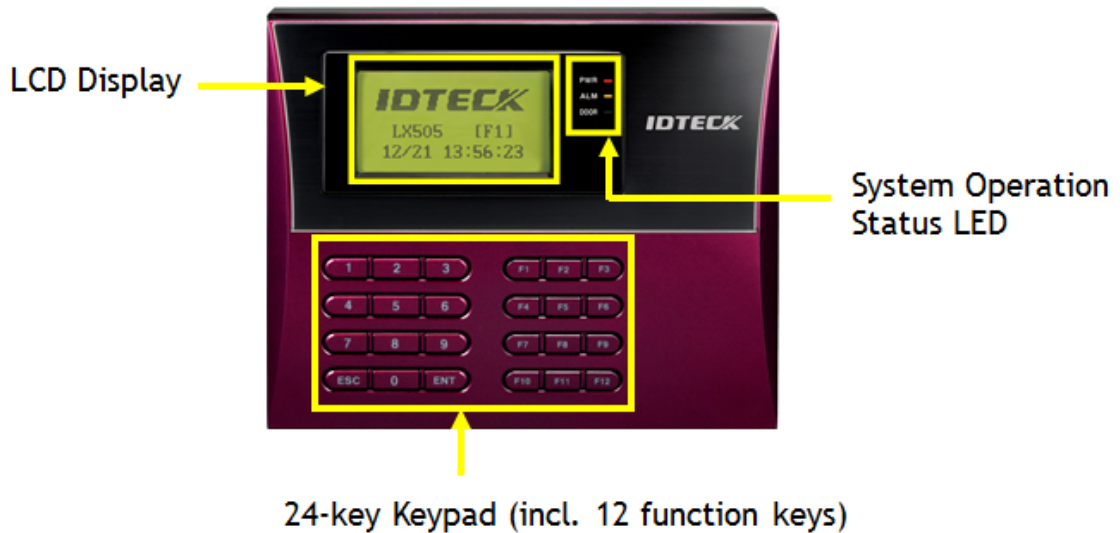
The IDTECK LX505 / LX505SR can display the user name when a user gains access.

Function Key Name Display

You can assign names for each function key via software. Using this feature, for example, you can give certain keys names like punch-in and punch-out and tell the employees to press one of the function keys according to the nature of their access prior to each access attempt. This way, you will be able to identify punch-in and punch-out events on the software.

2 Product Explanation

2.1 Panel Description



LCD Module

The LCD screen displays the status of the LX505.

System Operation Status LED:

When the power is applied to the LX505, the red LED is turned on.

When the Relay #1 operates, the green LED is turned on.

When the Relay #2 operates, the yellow LED is turned on.

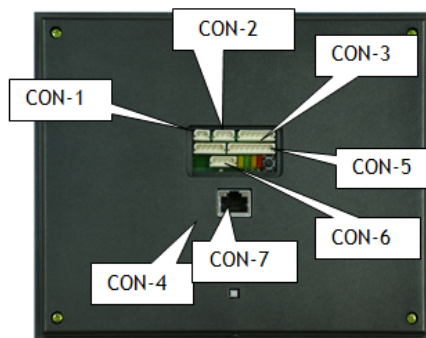
24-key Keypad

The keypad can be used to manually operate the LX505 with ease.

Function Keys

The LX505 has 12 function keys ([F1] - [F12]).

2.2 Connection Layout



2.3 Color Coded & Wiring Table

I/O PORT NAME	SIGNAL NAME	WIRE COLOR
CON-1(2PIN CONNECTOR)		
Main Power (+12V)	DC 12V	Red
Power Ground	GND (-)	Black
CON-2 (3PIN CONNECTOR : Serial Printer)		
RS232-RX	RXD	Pink wire with white stripe
RS232-TX	TXD	Cyan wire with white stripe
RS232-GND	GND	Black
CON-3 (6PIN CONNECTOR)		
TTL OUTPUT #1	TTL#1, WD0	Orange wire with white stripe
TTL OUTPUT #2	TTL#2, WD1	Brown wire with white stripe
Aux Input #1	IN#1	Green
Aux Input #2	IN#2	Green wire with white stripe
Wiegand DATA 0	DATA-0	Pink
Wiegand DATA 1	DATA-1	Cyan
CON-4 (5PIN CONNECTOR)		
RS485-RTX(+)	RS485-A(+)	Yellow wire
RS485-RTX(-)	RS485-B(-)	Gray wire
RS232-TX	TXD	Black wire with white stripe
RS232-RX	RXD	Red wire with white stripe
RS232-GND	GND	Black
CON-5 (8PIN CONNECTOR)		
Door RELAY(NC)	NC(1)	Blue wire with white stripe
Door RELAY(COM)	COM(1)	Gray wire with red stripe
Door RELAY(NO)	NO(1)	White wire with red stripe
Alarm RELAY(NC)	NC(2)	Purple wire with white stripe
Alarm RELAY(COM)	COM(2)	White
Alarm RELAY(NO)	NO(2)	Purple
Exit Button	EXIT	
Door Sensor	CONTACT	Yellow wire with red stripe
CON-6 (4PIN CONNECTOR : Not Use)		
CON-7: TCP/IP RJ45 CONNECTOR		

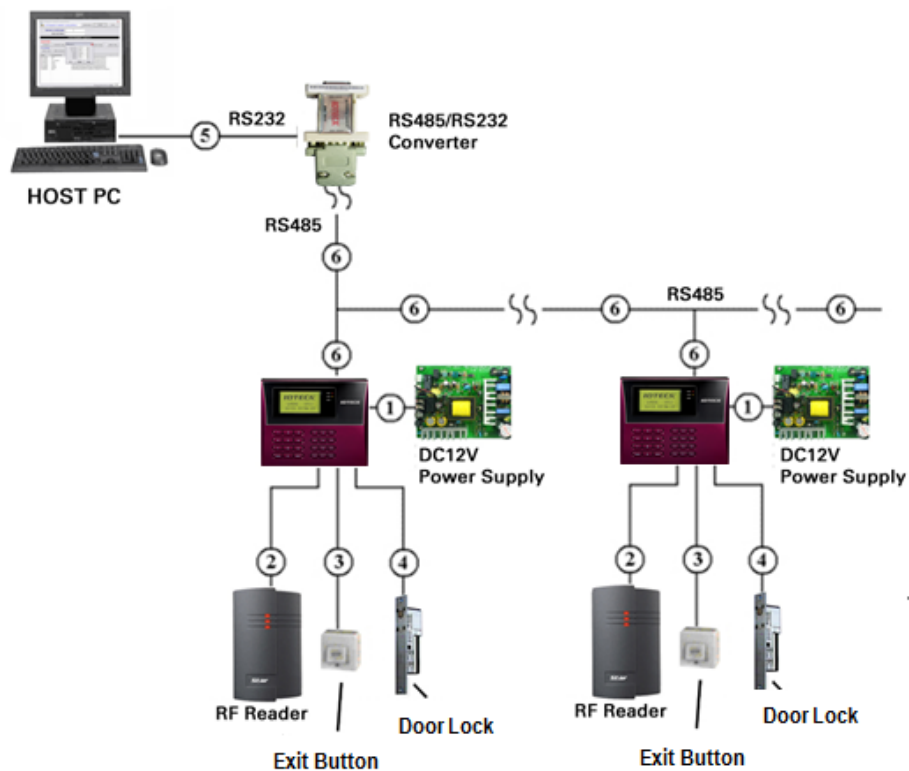
Installation Tips & Check Points

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1 Check Points before Installation

1.1 Selection of Cable

The system installation cables should be connected as follows;



1.2 Recommended Cable Type and Permissible Length

Reference	Description	Cable Specification	Maximum Distance
1	LX505 Power (DC12V) DC Power -> LX505	Belden #9409, 18 AWG 2 conductor, unshielded	30m
*2 ¹	Reader (Power and Data) Exit Reader -> RF20	Belden #9512, 22 AWG 4 conductor, shielded Belden #9514, 22 AWG 8 conductor, shielded	150m
3	Door Contact Exit Button Sensor Input Input -> LX505	Belden #9512, 22 AWG 4 conductor, shielded Belden #9514, 22 AWG 8 conductor, shielded	300m
4	Door Lock, Alarm Device Lock (Alarm) -> LX505	Belden #9409, 18AWG 2 conductor, unshielded	300m
5	RS232 Cable Converter -> Host P.C.	Belden #9829, 24 AWG 2-twisted pair, shielded	15m
6	RS485 Cable LX505 -> LX505 LX505 -> Converter	Belden #9829, 24 AWG 2-twisted pair, shielded	1,200m

2 Check Point during Installation

2.1 Termination Resistor

Termination resistors are used to match impedance of the network to the impedance of the transmission line being used. When impedance is mismatched, the transmitted signal is not

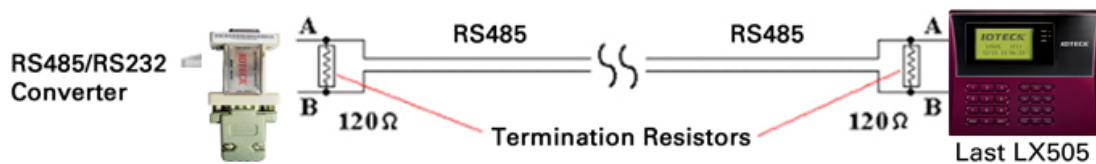
1 For readers, thicker wires are needed if you connect the reader with high current consumption.

completely absorbed by the receiver and a portion of signal is reflected back into the transmission line. The decision whether or not to use termination resistors should be based on the cable length and data rate used by the communication system.

For example, if you use 9,600 baud rate and 1,200m length of cable, the propagation velocity of cable is $0.66 \times \text{speed of light}$ (This value is specified by the cable manufacturer), if we assume the reflections will damp out in three round trip up and down the cable length, the transmitted signal will stabilize $18.6\mu\text{s}$ after the leading edge of a bit. Since the data bit is captured in the middle of the bit which is approximately $52\mu\text{s}$ after the leading edge of a bit. The reflection stabilizing time $18.6\mu\text{s}$ is much before the center of the bit therefore the termination resistors are not required.

However, if you install the cable to maximum length, the impedance of cable and network is mismatched and the transmitted signal is overlapped by the reflected signal. In this case, it is recommended to add termination resistors to the end of the receiver lines. A 120Ω resistor can be used for termination resistor in parallel between the receiver lines "A" and "B" for 2 wires RS485 system. A termination resistor of less than 90Ω should not be used and no more than 2 terminations should be used in one network system.

2.2 How to Connect Termination Resistors



2.3 Grounding System for Communication Cable

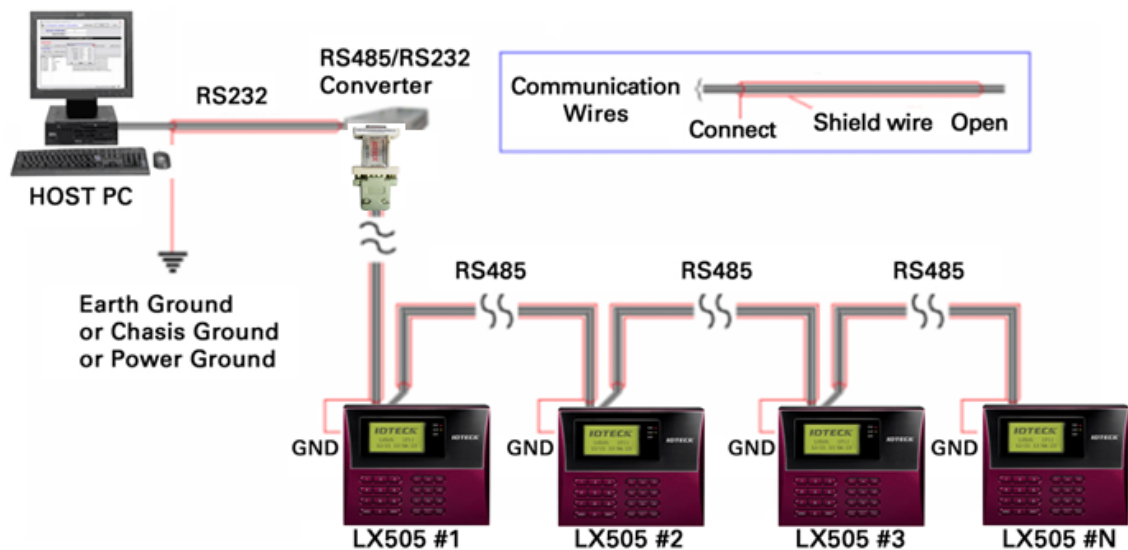
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We recommend you to use a proper grounding system for the communication cables. The best grounding method is to put the shield wire of the communication cable to the 1st class earth grounding; however bringing the earth ground to the communication cable isn't easy and the installation cost increases. There are three grounding points you can find during installation;

1. Earth Ground
2. Chassis Ground
3. Power Ground

The most important point about grounding system is not to connect both ends of shield wire

es to the grounding system; in this case, there will be a current flow through the shield wire when the voltage level of both ends of shield wire is not equal and this current flow will introduce some noise and interference to communications. For better grounding, we advise you connect ONLY one end of shield wire of communication cable to the grounding system; If you find earth ground nearby, then connect one end of the shield wire to the earth ground; If you do not have earth ground nearby, then find chassis ground and connect one end of shield wire to chassis ground; If you do not find either earth ground or chassis ground, then connect one end of shield wire to power ground. (GND of LX505) Note that if the chassis ground is not properly connected to the earth and floated from the ground level, then grounding to the chassis ground will give the worst communication. Therefore, we recommend you use power ground instead of chassis ground if that is the case.



2.4 Reverse Diode Connection

If you connect an inductor (Door Locks or Alarm device) to the output relays, there will be a high surge voltage created while the inductor is turning on and off. If you do not connect a reverse diode, the surge voltage will transfer and damage the electronic circuit of the controller. It is strongly recommended to add a reverse diode between the inductor coils to absorb this surge voltage.

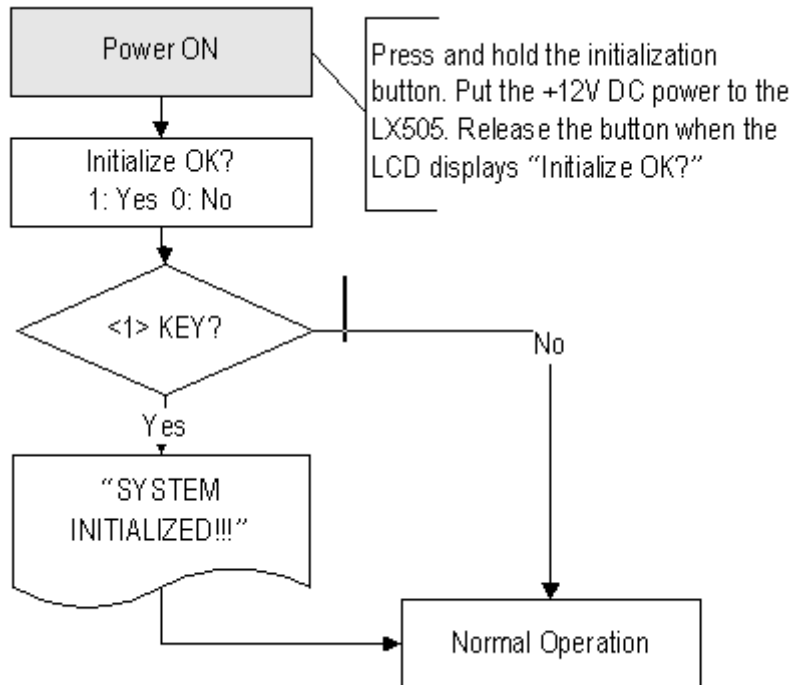


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2 System Initialization

After the installation and connections are completed, apply power (DC12V) to the LX505 with the initialization button held down. (The initialization button can be found on the back of the LX505.) Then, the LCD will first display “Initialize OK? 1:Yes 0:No”. Press <1> key if you want to initialize the system. After all the initialization process is completed, the system will be operating in the normal mode and the LCD will display “IDTECK, LX505 [F1], Date Time”.



3 Wall Mount Installation

1. Position the Wall Mount to the location at which you want to install the unit and mark 4 x drilling positions. Drill 6-32 holes for at least 4 mounting points.
2. Drill a 1/2" hole on the center of the Wall Mount.
3. Using 4 screws, install the Wall Mount to the proper location.
4. Take out the cable through the center hole.
5. After the wiring is done as explained in the next section, put the Main Unit on the Wall Mount and screw it.

4 Wiring

4.1 Power Connection

1. Connect (+) wire of DC 12V Power Supply to Red wire.
2. Connect GND (-) wire of DC 12V Power Supply to Black wire.

4.2 Input Connection

Exit Button Connection

1. Connect one wire from an Exit Button to Orange wire.
2. Connect the other wire from the Exit Button to GND.

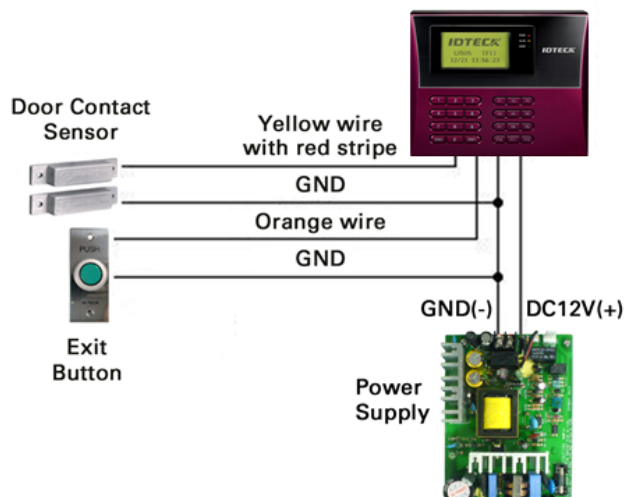
Door Contact Sensor Connection

1. Connect one wire from Door Contact Sensor to Yellow wire with Red stripe.
2. Connect the other wire from Door Contact Sensor to GND.

Auxiliary Input Connection

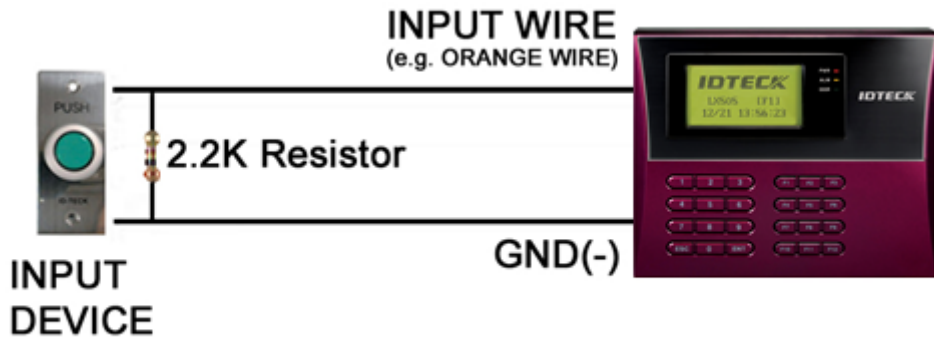
(Applicable to Aux Input #1 (Green wire), Aux Input #2 (Green wire with white stripe))

1. Connect one wire from Auxiliary Input Device to one of Aux Input #1 or Aux Input #2.
2. Connect the other wire from Auxiliary Input Device to GND.



2.2K Resistor Connection for Cut off Check

You have to connect a 2.2K resistor between the input wire (e.g. Orange wire) and the GND to apply the Cut Off Check feature. First, select whether or not to check the cutoff status of each device from [F5 SETUP MENU] -> Cut Off Check. Second, set the desired output that will be generated in the event of a cutoff from [F5 SETUP MENU] -> Cut Off Alarm.



4.3 Output Connection

Door Lock (Power Fail Safe) Connection (Door Relay)

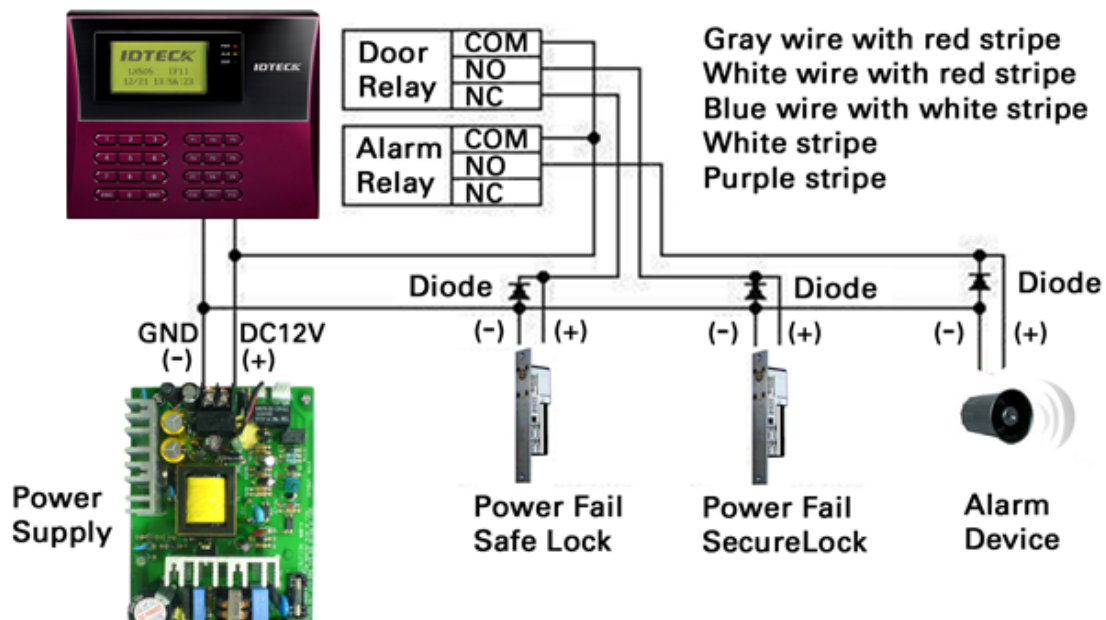
1. Connect COM wire of Door Relay (Gray wire with Red stripe) to +12V.
2. Connect NC wire of Door Relay (Blue wire with White stripe) to (+) wire of Door Lock.
3. Connect GND wire to (-) wire of Door Lock.

Door Lock (Power Fail Secure) Connection (Door Relay)

1. Connect COM wire of Door Relay (Gray wire with Red stripe) to +12V.
2. Connect NO wire of Door Relay (White wire with Red stripe) to (+) wire of Door Lock
3. Connect GND wire to (-) wire of Door Lock.

Alarm Device Connection (Alarm Relay)

1. Connect COM wire of Alarm Relay (White wire) to +12V.
2. Connect NO wire of Alarm Relay (Purple wire) to (+) wire of Alarm device.
3. Connect GND port to (-) wire of Alarm device.



You should connect REVERSE DIODES as shown in the diagram above. A desirable DIODE is a Fast Recovery DIODE (current=min. 1A), 1N4004 - 1N4007 or similar.

4.4 External Reader Connection

Proximity Reader Connection

1. Connect (+) wire of the Proximity Reader to DC +12V.
2. Connect (-) wire of the Proximity Reader to GND.
3. Connect Data-0 wire of the Proximity Reader to the Pink wire.
4. Connect Data-1 wire of the Proximity Reader to the Cyan wire.

Compatible Readers (External Reader):

LX505:

- Standard 26bit Wiegand Format Proximity Readers
- Standard 26bit Wiegand + 8bit Burst Format Proximity and keypad Reader

LX505SR:

- Standard 34bit Wiegand Format Proximity Reader
- Standard 34bit Wiegand + 8bit Burst Format Proximity and keypad Reader

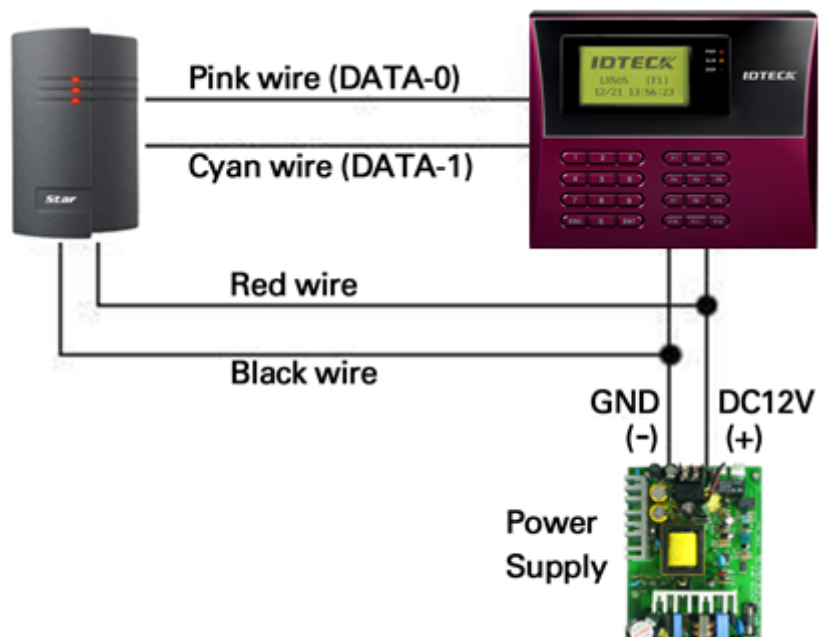
Recommended Readers

LX505

- RF TINY, RF10/20/30/70/500, RFK101, FGR006, FGR006EX

LX505SR

- SR10/20/30, SRK101, FGR006SR

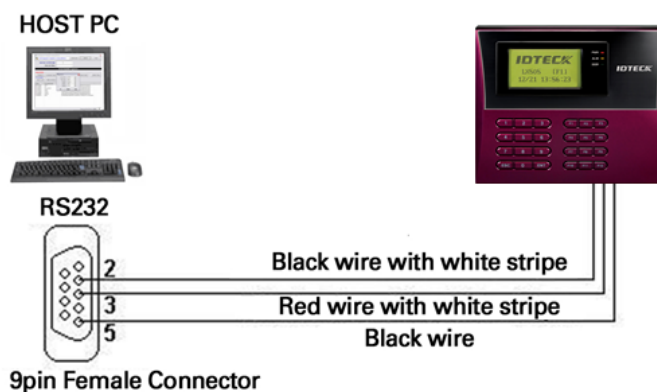


1 RS232 Communication Port Connection

A 9-pin connector (Serial communication connector, female) is needed to connect the LX505 with a host PC via RS232 communication.

Please follow the steps below.

1. Connect RS232-TX (Black wire with White stripe) to the pin #2 (RXD) of the 9-pin connector.
2. Connect RS232-RX (Red wire with White stripe) to the pin #3 (TX) of the 9-pin connector.
3. Connect GND (Black wire) to the pin #5 of the 9-pin connector.
4. Plug in the 9-pin female connector to COM Port of the host PC.
5. Install and run the LX505 Application Software.

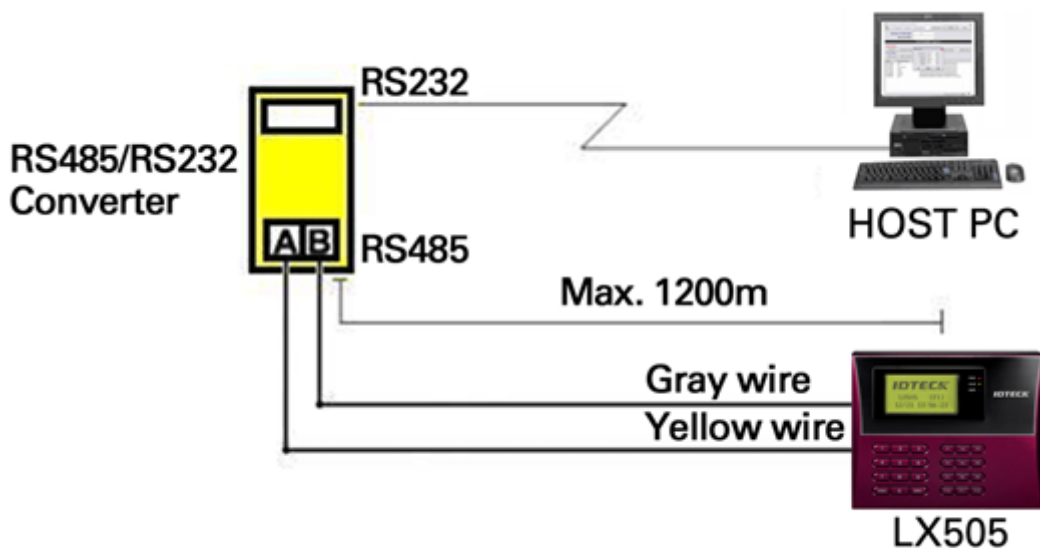


2 RS485 Communication Port Connection

2.1 RS485 Connection (Standalone Unit)

An RS485/RS232 converter is needed to use the RS485 communication between the LX505 and a host PC. Please follow the steps below.

1. Connect RS485-RTX (+) (Yellow wire) to RS485-A port of the converter.
2. Connect RS485-RTX (-) (Gray wire) to RS485-B port of the converter.
3. Plug the 9-pin connector (RS232) of the converter into the COM Port of the host PC.
4. Install and run the LX505 Application Software.

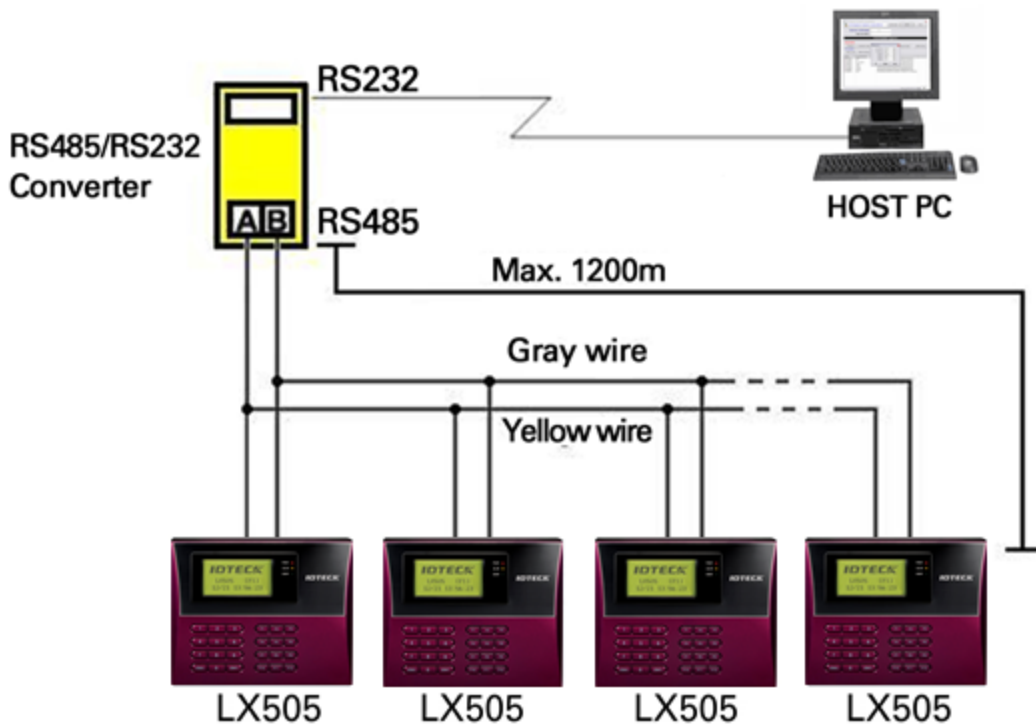


2.2 RS485 Connection (Multiple Units)

An RS485/RS232 converter is needed to use RS485 communication between multiple LX505 units and a host PC. Please follow the instructions below.

1. First, connect all RS485 ports of LX505 units in parallel.
(Max. of 32 LX505 Units can be connected)
 - I. Connect RS485-RTX (+) (Yellow wire) of one LX505 to RS485-RTX (+) (Yellow wire) of another LX505.
 - II. Connect RS485-RTX (-) (Gray wire) of one LX505 to RS485-RTX (-) (Gray wire) of another LX505.

- III. Set a unique Communication Address for each LX505.
2. Second, connect one of the RS485 ports of the LX505 units to the RS485/RS232 converter.
 - I. Connect RS485-RTX (+) (Yellow wire) of one LX505 to RS485-A port of the Converter.
 - II. Connect RS485-RTX (-) (Gray wire) of one LX505 to RS485-B port of the Converter.
- III. Plug the 9-pin connector (RS232) of the Converter into the COM port of the host PC.
- IV. Install and run the LX505 application software.



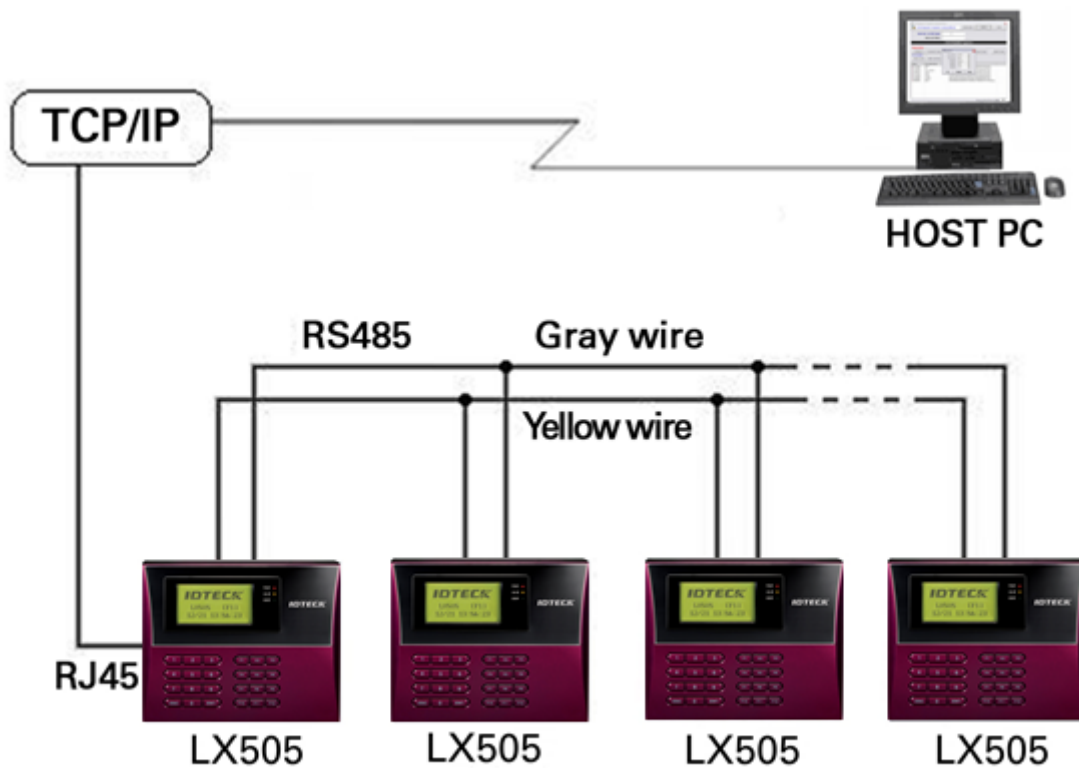
3 TCP/IP Communication Port Connection (Optional)

An optional TCP/IP Module is needed for TCP/IP communication to the host PC. Follow the next instruction.

1. Connect the LAN cable of the network system to the RJ45 jack of the LX505.
2. If you install multiple LX505 units and only one TCP/IP port is available, you may connect

connect one LX505 to TCP/IP network and then connect all the LX505 units using the RS485 multiple communication as shown in the diagram below.

3. Set a unique Communication Address for each LX505.
4. Install and run the LX505 Application Software.



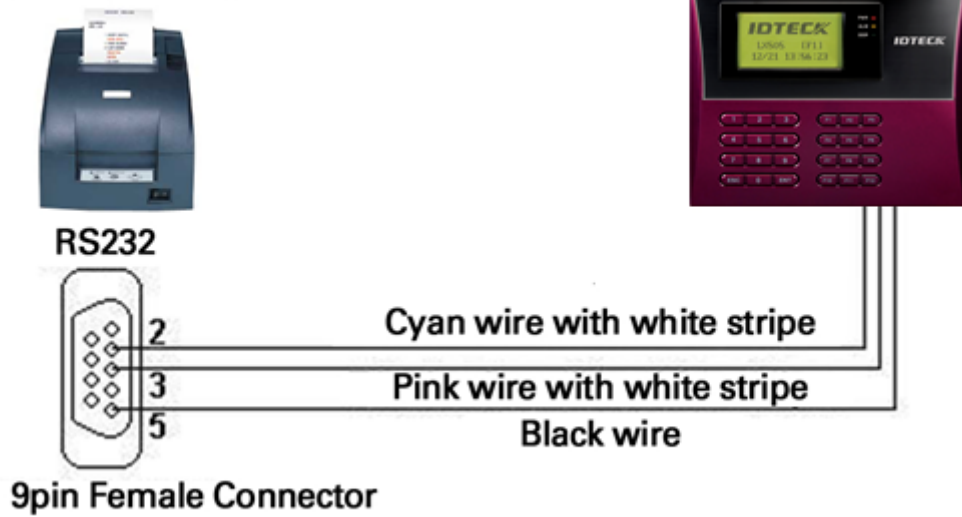
4 Serial Printer Connection

A 9-pin connector (Serial communication connector, female) is needed to connect the LX505 with a serial printer via RS232 communication. Please follow the steps below.

1. Connect RS232-TX (Cyan wire with White stripe) to the pin #2 (RXD) of the 9-pin connector.
2. Connect RS232-RX (Pink wire with White stripe) to the pin #3 (TX) of the 9-pin connector.
3. Connect GND, Black wire to the pin #5 of the 9-pin connector.
4. Plug in the 9-pin female connector to COM Port of the serial printer.

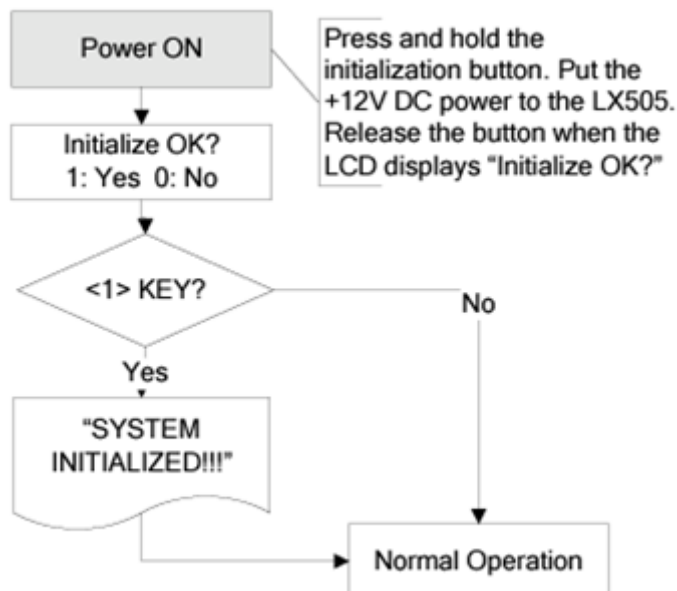
5. Set the Print Output setting to 'Auto Print' or 'Manual Print' from [F3 SETUP MENU].

SERIAL PRINTER



1 Initialization of LX505

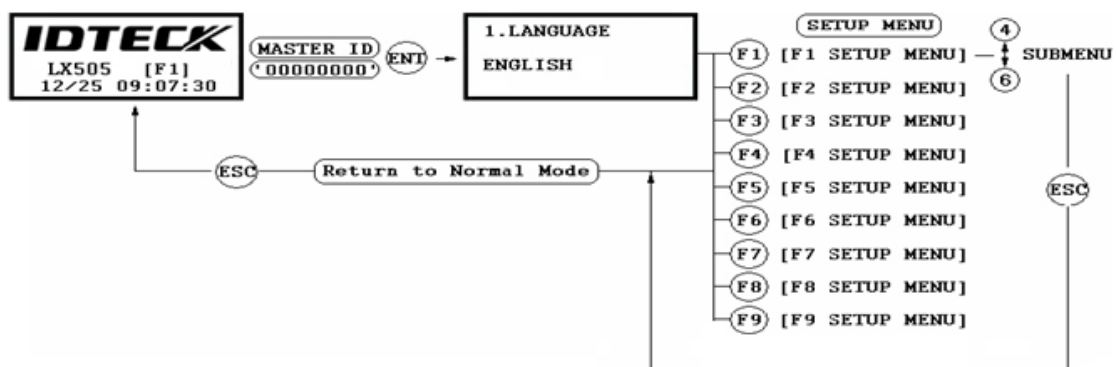
After the installation and connections are completed, apply power (DC12V) to the LX505 with the initialization button held down. (The initialization button can be found on the back of the LX505.) Then, the LCD will first display “Initialize OK? 1:Yes 0:No”. Press <1> key if you want to initialize the system. After all the initialization process is completed, the system will be operating in the normal mode and the LCD will display “IDTECK, LX505 [F1], Date, Time”.



2 How to Enter the SETUP MENU

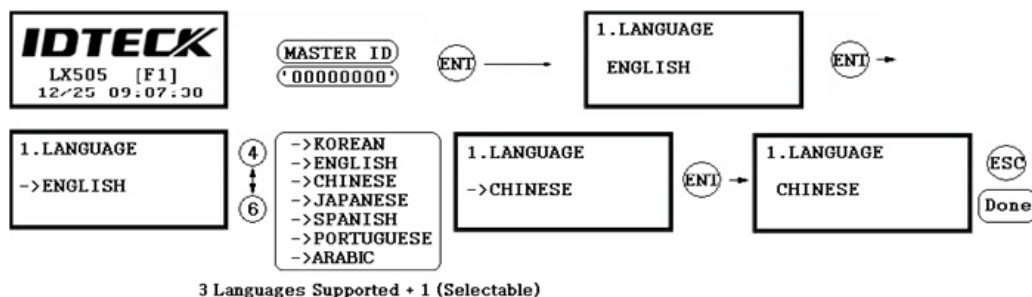
To set up the LX505 or to change the settings, you have to enter the SETUP MENU first. To do so, press <0> key eight (or ten) times and <ENT> key on the keypad. (The Default Master ID is '00000000'. For the LX505SR, it's '0000000000'.)

There are 9 SETUP MENUS and you automatically enter [F1 SETUP MENU] first. You can move to other SETUP MENUS by pressing <F1> to <F9> keys. For example, if you want to go to [F2 SETUP MENU], then press <F2> key. To enter [F5 SETUP MENU], press <F5> key, and so on and on. There are several SUBMENUS inside each SETUP MENU and you can scroll up and down the SUBMENU by pressing <4> and <6> key. If you don't press any key within 60 seconds or if you press <ESC> key, the LX505 will exit the SETUP MENU and return to the normal operating mode. You can change the Master ID in the [F7 SETUP MENU].



3 Language Setting

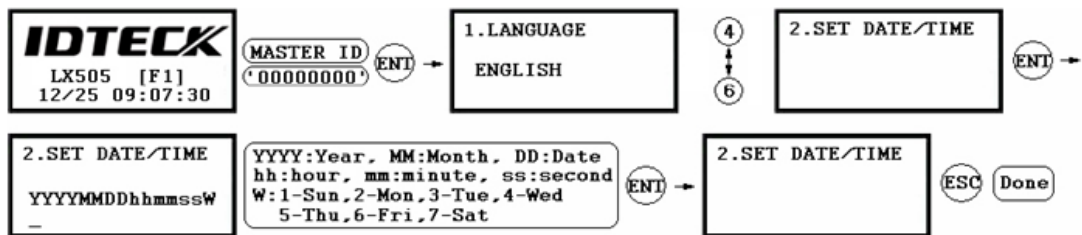
Select [LANGUAGE] in [F1 SETUP MENU] then press <ENT> key to select which language to use. The steps below show how to choose Spanish, for example.



4 Date / Time Setting

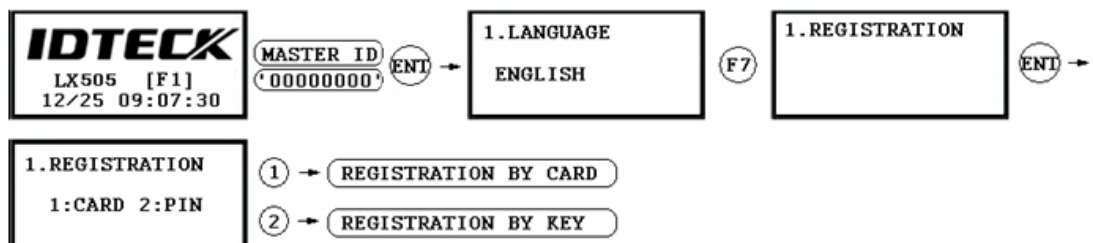
Select [SET DATE/TIME] in [F1 SETUP MENU] and enter the total of 15 digits (i.e. Year / Month / Date / Hour / Minute / Second / Day) as shown below. The LCD will display the new Date and Time after the time setting is completed, but the year and day will not be displayed.

The LX505 has a 24-hour system. Day codes are 1 for Sunday, 2 for Monday, 3 for Tuesday, 4 for Wednesday, 5 for Thursday, 6 for Friday and 7 for Saturday.

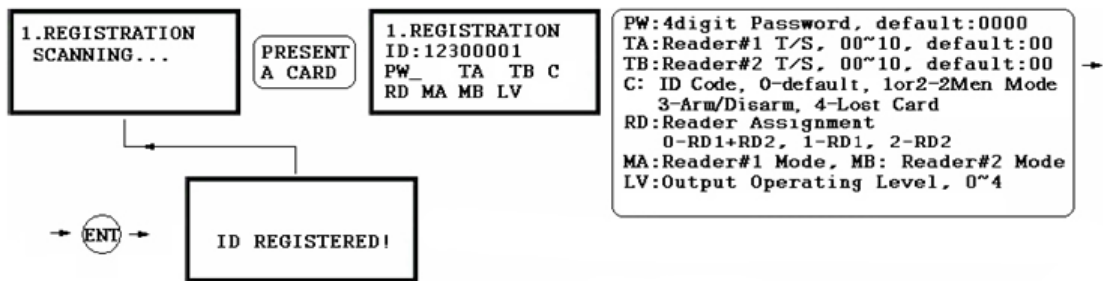


5 ID Registration

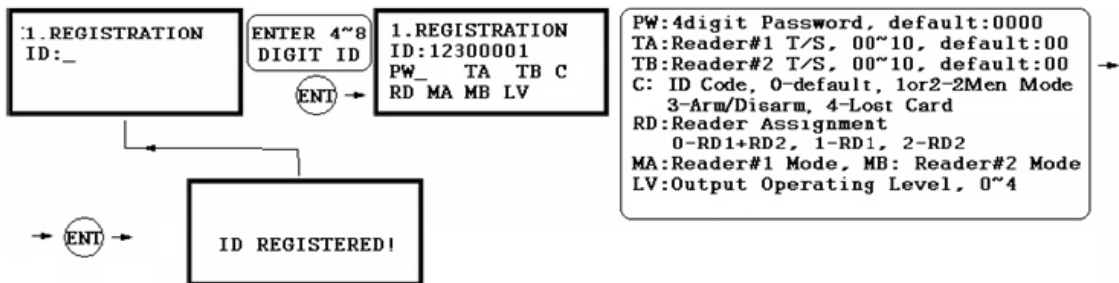
To register a User ID to the LX505, select [F7 SETUP MENU] -> [REGISTRATION]. You can choose to register an ID a) using a card or b) by entering a PIN.



5.1 Registration by Card



5.2 Registration Using Keypad(PIN)



In case you make a typing mistake during the registration process, you can press the F1 button to erase the errors.

5.3 Terminology

Scanning

means the reader is waiting for an ID number to be entered. The number of the card will appear with a beep sound when you present a card.

ID

refers to a Personal Identification Number (PIN) that consists of 4-8 digits. Enter a 4-8 digit ID number (PIN) and press <ENT> key. (An ID number of the LX505SR consists of 4-10 digits.)

PW

stands for a password that is required for verification in the RF + Password operating mode.

TA

refers to the Time Schedule code ('00' - '10') for the Reader#1 (i.e. the built-in reader). If you assign a Time Schedule in this field, the new cardholder can gain access only during the assigned Time Intervals. To set the Time Intervals for each Time Schedule code, refer to the instructions on the Time Schedule Setup in the [F4 SETUP MENU]. If you wish to give the cardholder unlimited access time, enter the default Time Schedule code '00' for the value.

TB

refers to the Time Schedule code ('00' - '10') for the Reader#2 (i.e. the exit reader). If you assign a Time Schedule in this field, the new cardholder can gain access only during the assigned Time Intervals. To set the Time Intervals for each Time Schedule code, refer to the instructions on the Time Schedule Setup in the [F4 SETUP MENU]. If you wish to give the cardholder unlimited access time, enter the default Time Schedule code '00' for the value.

RD

refers to the Reader Assignment code for the cardholder. Entering the code '0' assigns both readers (Built-in Reader and Exit Reader) to grant access to the cardholder that is being registered, code '1' only assigns Reader#1 (Built-in Reader) and code '2' assigns Reader#2 (Exit Reader). If you enter '1' in the RD field (Only Reader#1 assigned) and try to exit through Reader#2 (Exit Reader) then the LX505 generates an error message ("Access Door Error") on the LCD display.

C

refers to the ID code. Code '0' is default and codes '1' and '2' are codes used for the TWO MEN MODE. Code '3' is used for the ARM/DISARM function and code '4' is assigned for lost cards.

MA

refers to the Operating Mode that the new cardholder will use on Reader#1 (i.e. the built-in reader). If you enter '1' for MA, for example, this card holder will be able to gain access using his or her ID only.

'0' - Depend on System Operating Mode ([F1 SETUP MENU] > [READER#1 MODE])

'1' - ID Only Mode

'2' - ID + Password Mode

MB

refers to the Operating Mode that the new cardholder will use on Reader#2 (Exit Reader).

'0' - Depend on System Operating Mode ([F1 SETUP MENU] > [READER#2 MODE])

'1' - ID Only Mode

'2' - ID + Password Mode



You cannot apply the ID + Password Mode if Reader#2 does not have a keypad or does not use password verification.

LV

refers to the Output Operating Level for the new cardholder. Output operating time can be set for each user. To define an output operating time for each level, refer to the instructions on Output Setting in [F6 SETUP MENU].

'0' or '1' - Level #1

'2' - Level #2

'3' - Level #3

'4' - Level #4

1 Normal Operation

Power on

When power is applied to the LX505, the Red LED is lit.

Reading of registered card

When a registered card (or a PIN) is verified, the Door (Relay#1) will open for 3 seconds (Default) with the Green LED on.

Exit button

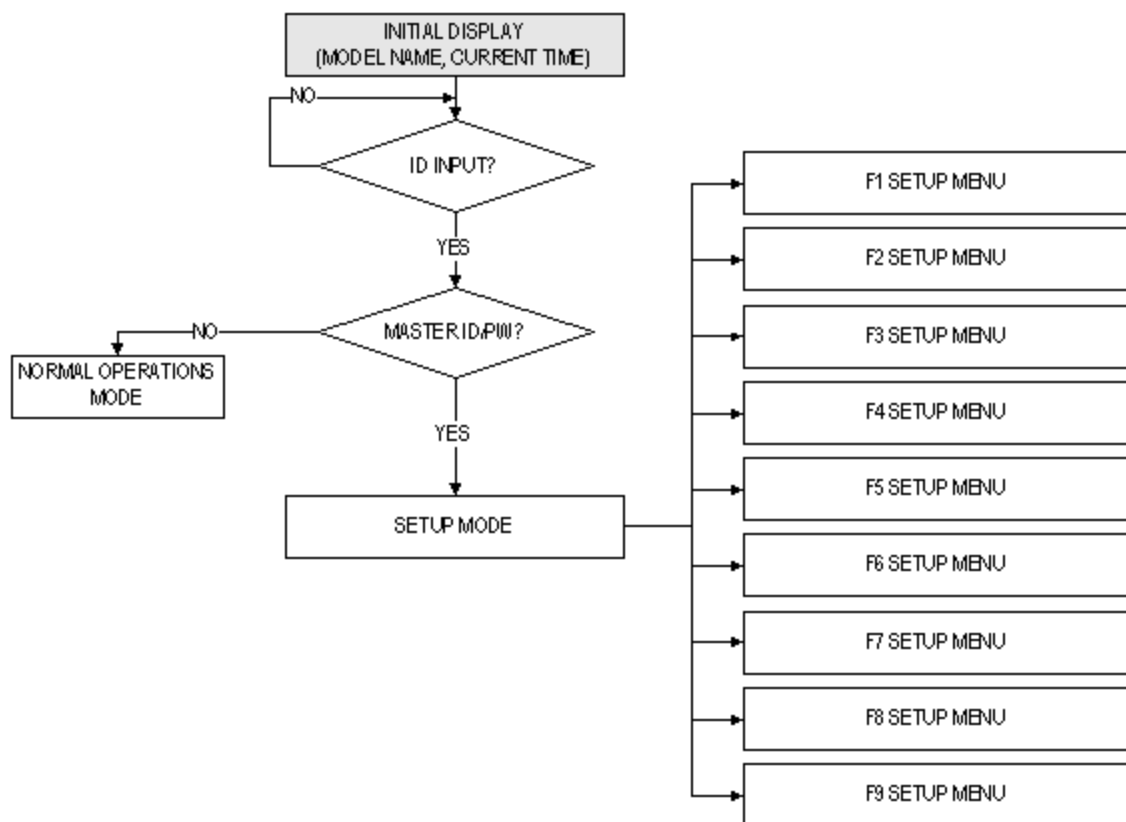
After the Exit Button is pressed, the Door (Relay#1) will stay open for 3 seconds with the Green LED on.

Alarms

If a card fails to be verified, the access will be denied and an alarm (Relay#2) will be activated for 3 seconds with the Yellow LED on.

2 Default Setting

When you operate the system for the first time or after the system has been initialized, the factory setting values (i.e. the default settings) will be restored in the memory. You can change the settings for the desired application.

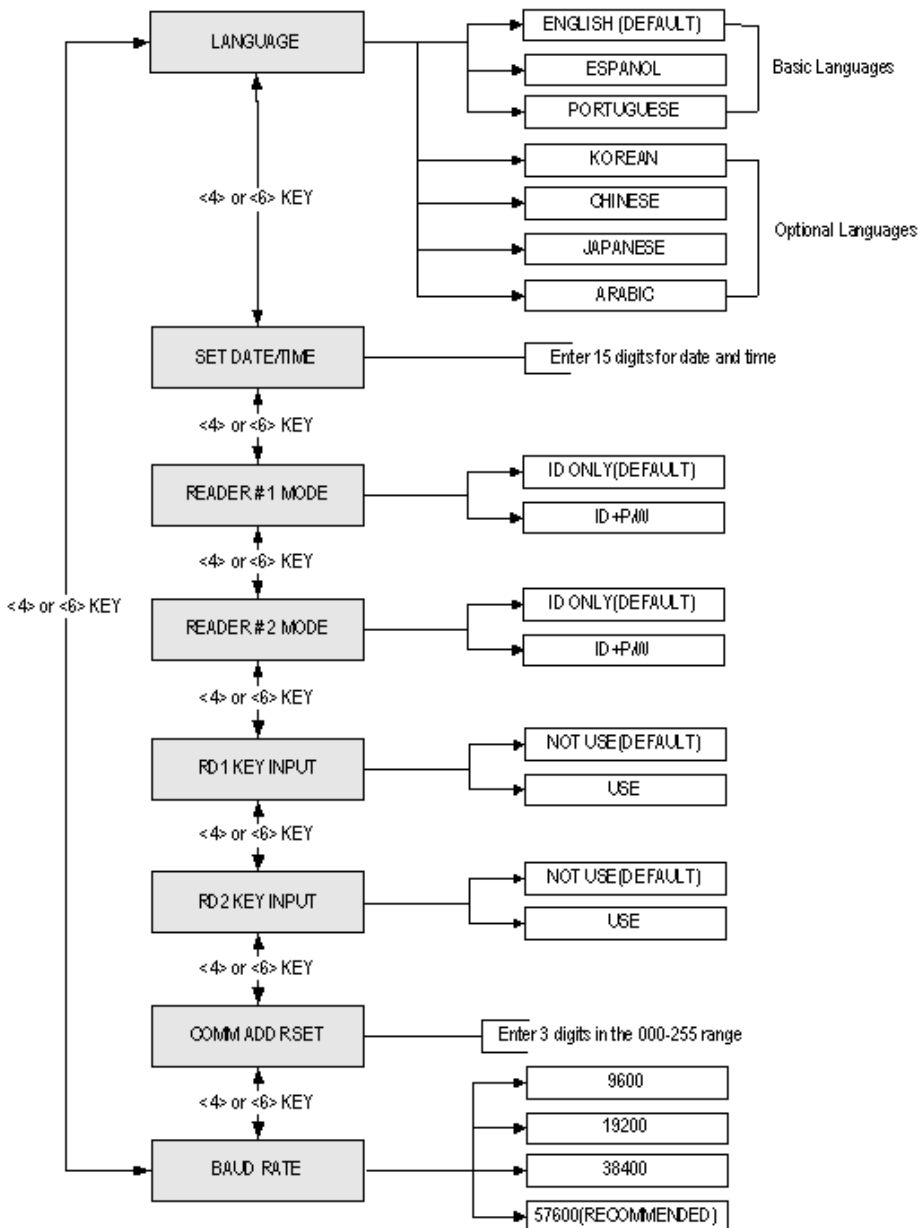


To set up the LX505 or to change the settings, you have to enter the SETUP MENU first. To do so, press <0> key eight (or ten) times and <ENT> key on the keypad. (The Default Master ID is '00000000'. For the LX505SR, it's '0000000000'.)

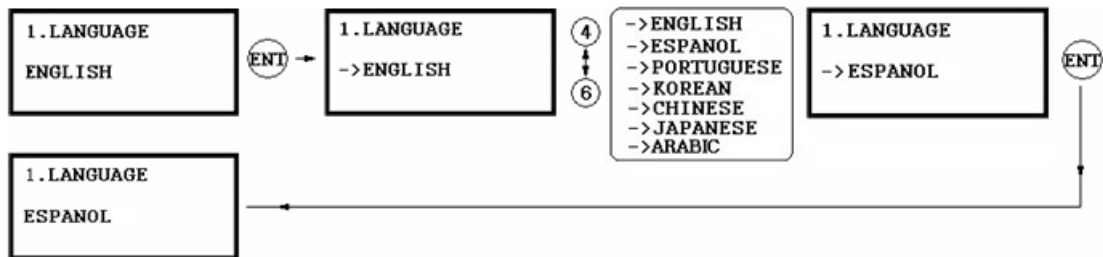
There are 9 SETUP MENUS and you automatically enter [F1 SETUP MENU] first. You can move to other SETUP MENUS by pressing <F1> to <F9> keys. For example, if you want to go to [F2 SETUP MENU], then press <F2> key. To enter [F5 SETUP MENU], press <F5> key, and so

on and on. There are several SUBMENUS inside each SETUP MENU and you can scroll up and down the SUBMENU by pressing <4> and <6> key. If you don't press any key within 60 seconds or if you press <ESC> key, the LX505 will exit the SETUP MENU and return to the normal operating mode. You can change the Master ID in the [F7 SETUP MENU].

1 F1 SETUP MENU



1.1 Language



- The default language is English.
- Supported languages are English, Spanish and Portuguese.
- One optional language of choice (Korean, Chinese, Japanese or Arabic) can be added.
- For addition of an optional language, please contact IDECK.

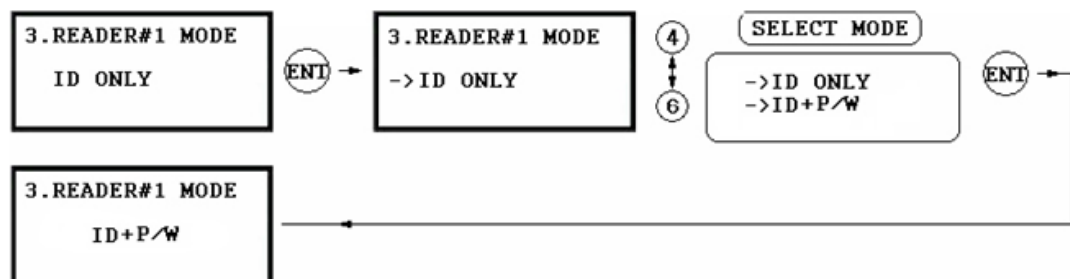
1.2 Date and Time Setting



e.g.

200802101330152 = Feb. 10, 2008, 13:30:15, Monday

1.3 Reader #1 Mode



READER#1 refers to the built-in proximity reader in the unit.

ID(PIN) ONLY: In this mode, users can access the door by simply presenting their c

ard or entering their ID number.

ID+ P/W: In this mode, users can access the door by presenting their card or entering their ID number and then verifying their identity by password.

1.4 Reader #2 Mode

The READER#2 MODE setting can be configured in the same way as READER#1 MODE setting in the previous section.



NOTE: READER#2 refers to the Exit Reader connected to the LX505.

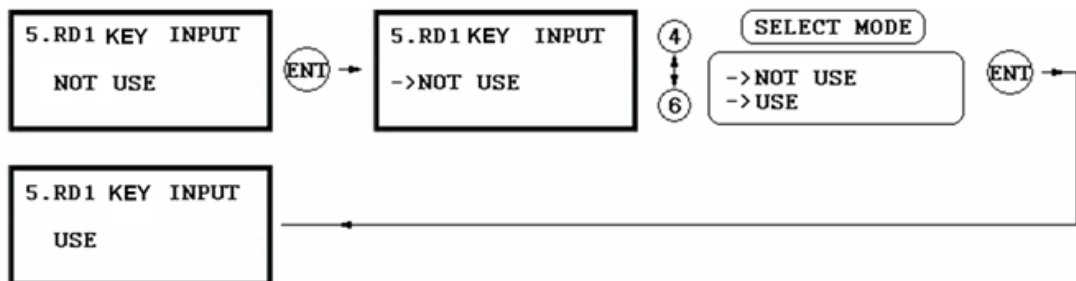
ID ONLY

Select this mode if the Exit Reader is operating without using a password

ID+P/W

Select this mode if the Exit Reader is using password verification.

1.5 Reader #1 KEY Input

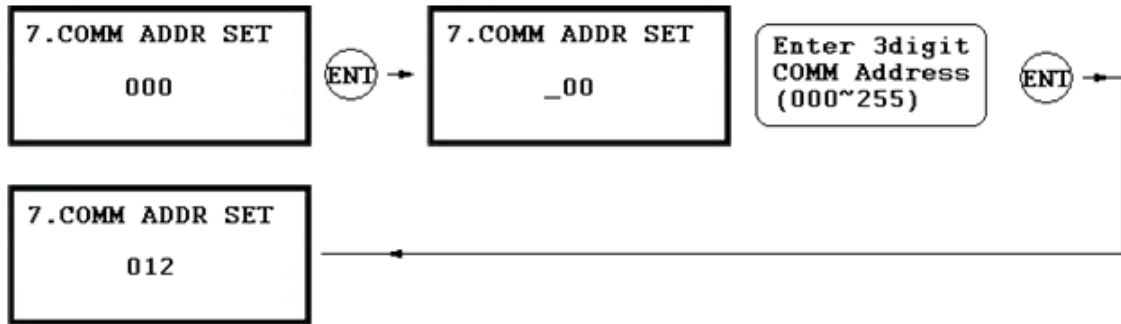


This setting allows you to decide whether to USE or NOT USE the keypad inputs for the Reader#1. The default setting is NOT USE the keypad input. If you want to access the door by entering the user ID by keypad, set this mode USE.

1.6 Reader #2 KEY Input

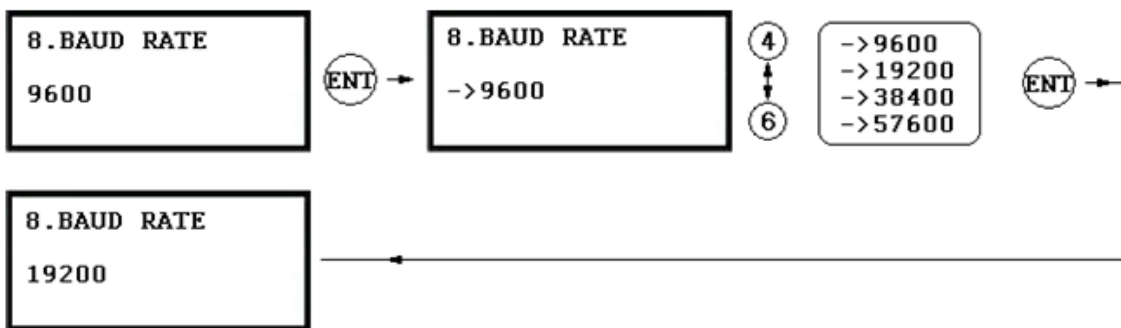
READER#2 KEY INPUT setting can be configured in the same way as READER#1 KEY INPUT setting in the previous Section.

1.7 Communication Address Setting



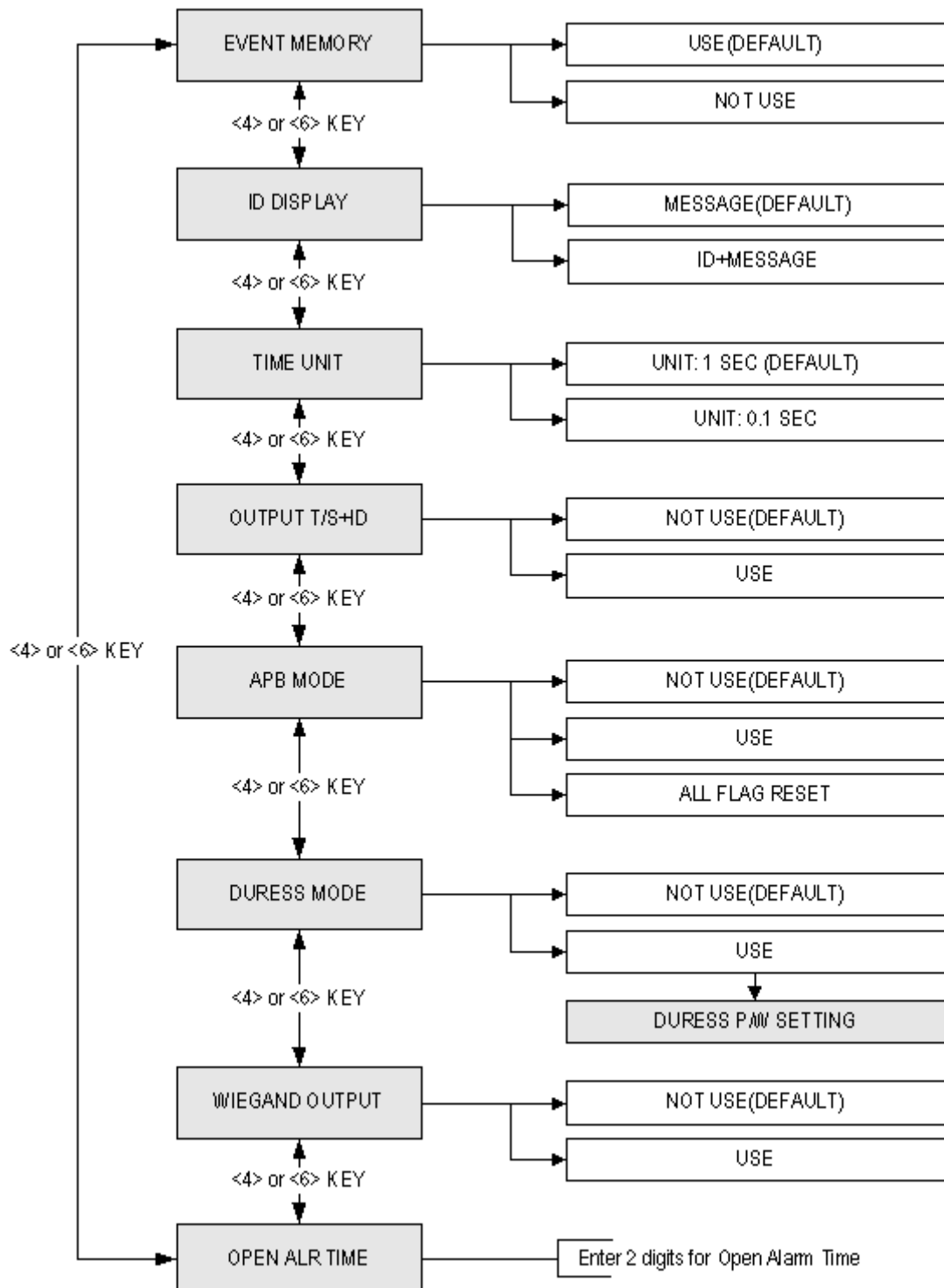
The default Communication Address is "000". Set a unique Communication Address for each unit in the loop.

1.8 Baud Rate Setting

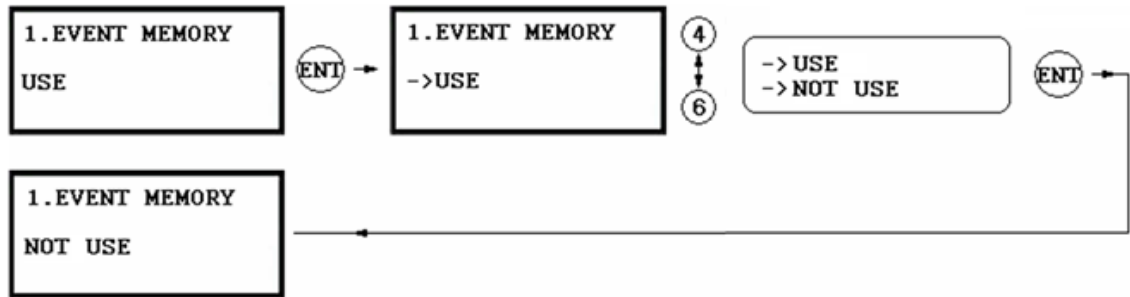


- The LX505 supports different Baud Rates of 9600, 19200, 38400 and 57600bps. The recommended Baud Rate is 57600bps. An incorrect Baud Rate setting will result in communication errors. Note that you should always set the same Baud Rate for the same communication network.
- If you have a communication problem, please check the followings;
 - Check the Communication Address for both the LX505 and the host PC in the Software. - Check the Baud Rate setting of both the LX505 and the host PC software.
 - Check the COM port and the cable.
 - Check the COM port settings of the host PC (Parity Bit: None, Data Bit: 8 bits, Stop Bit: 1 bit)

2 F2 SETUP MENU



2.1 Event Memory



You can select what action to take after event memory is full. If you set the event memory to USE, the LX505 keeps all event transactions stored in the memory in case the event memory is full. On the other hand, if you select NOT USE, new events will be overwritten into the event buffer. If you use the LX505 in a stand-alone configuration (just for door access), select NOT USE.

2.2 ID Display



If you want to display user ID numbers on the LCD, select ID+MESSAGE.

MESSAGE

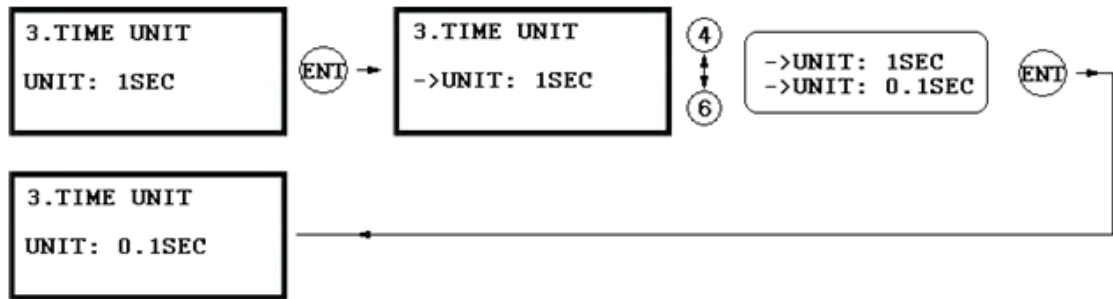
A text message and asterisks "*****" will appear and the user ID number won't be displayed.

ID+MESSAGE

The user ID number will be displayed on the LCD with a text message.

The default setting is 'MESSAGE'.

2.3 Time Unit Setting



This setting allows you to define the unit of time.

1sec

Output Time is calculated in the time unit of 1 second for the IN/OUT definition.

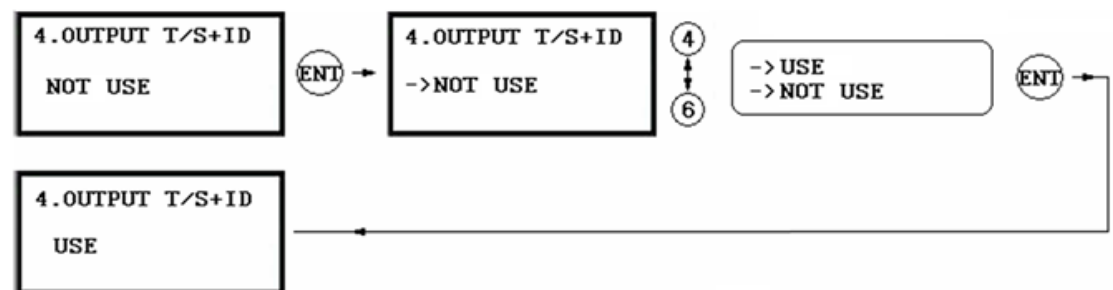
0.1sec

Output Time is calculated in the time unit of 1/10 second (or 100ms) for the IN/OUT definition

e.g.

- If you want to activate the Door Relay (Relay #1, DR) for 3 seconds, appropriate setting values are as follows;
 - The Time Unit should be set to 1 SEC.
 - The Door Relay (DR) Output Time should be set to “03”.
- If you want to activate Door Relay (Relay #1, DR) for 0.5 second, appropriate setting values are as follows;
 - The Time Unit should be set to 0.1 SEC.
 - The Door Relay (DR) Output Time should be set to “05”.

2.4 Output T/S + ID



This setting is related to the Output Time Schedule setting of [F5 SETUP MENU]. The Output Time Schedule setting can be used to generate outputs for a certain assigned period of time, for example to keep the door open during that time. By setting this Output T/S + ID setting to USE, you can delay the output (e.g. door opening) until the first access after the time schedule period begins. If there is no access during the assigned period, no output will be generated.

NOT USE

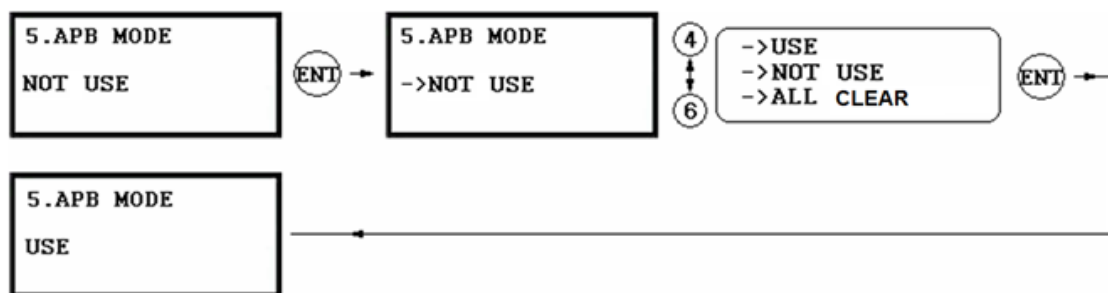
Output is generated at the beginning of the assigned Time Interval.

USE

Output is generated when a registered user gains access for the first time after the Time Interval of the applied Time Schedule begins.

The default setting is **NOT USE**

2.5 Anti-passback Mode



The Anti-pass back feature is used to prevent an identical user from entering or exiting the door more than twice in a row. This mode can be applied only when an Exit Reader is installed. DO NOT set this mode to USE if an Exit Button is installed instead of an Exit Reader.

NOT USE

The Anti-pass back feature is disabled.

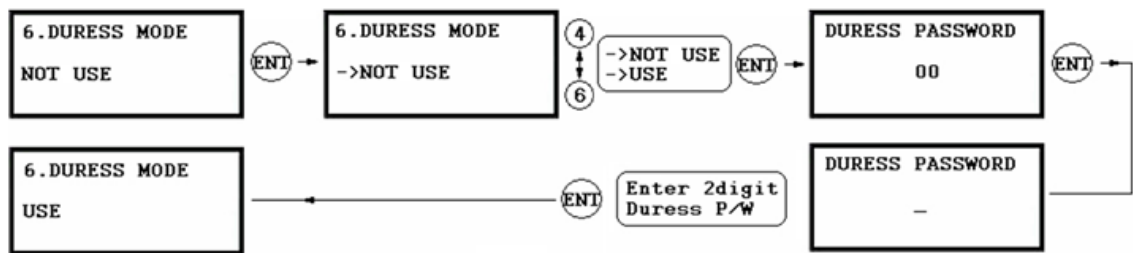
USE

The Anti-pass back feature is enabled.

ALL CLEAR

All Anti-pass back flags are reset, and access will be allowed one time regardless of the current status of the existing flags.

2.6 Duress Mode



You can set Duress Mode for Reader#1. The default setting is NOT USE. If you select USE, the LCD will display the default Duress Password '00'. If you want to change the Duress Password, press <ENT> key and enter a 2-digit Duress Password. If you do not want to change it, press the <ESC> key.

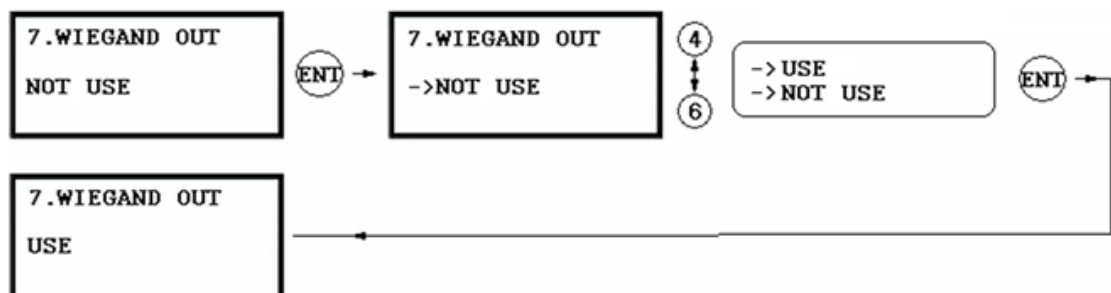


In case of duress, enter the 2-digit Duress Password and press <ENT> key prior to presenting the card. The Duress Alarm will be generated and reported to the host PC while the door is opened as usual.



The Duress Password and ARM and DISARM codes must differ.

2.7 Wiegand Output



This feature allows you to use the LX505 as a reader (as opposed to as a controller). If this setting is set to USE, the LX505 sends 26bit Wiegand Output through two TTL output ports. (The LX505SR sends out 34bit Wiegand output.)

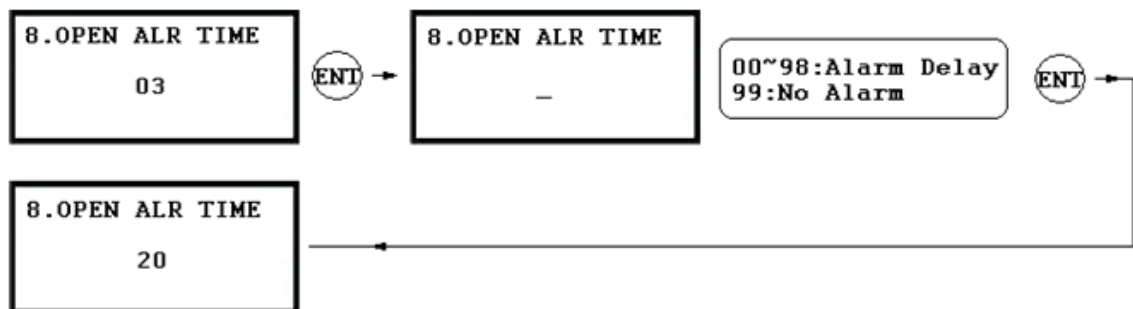
NOT USE

Normal TTL outputs will be activated.

USE

26bit Wiegand outputs will be generated through TTL1 and TTL2 ports. When a registered card is read, the "ID SCANNING OK" message will appear on the LCD. (TTL1 : Data 0 TTL2 : Data 1)

2.8 Door Open Alarm Time Setting



The Door Open Alarm Time is the delay between the point at which the Door Relay Time finishes and the point at which the Door Open Alarm starts ringing.

00

The alarm will ring immediately past the Door Relay time if the door is left open.

01-98

Delay (01-98 sec.) will be inserted before an alarm is triggered.

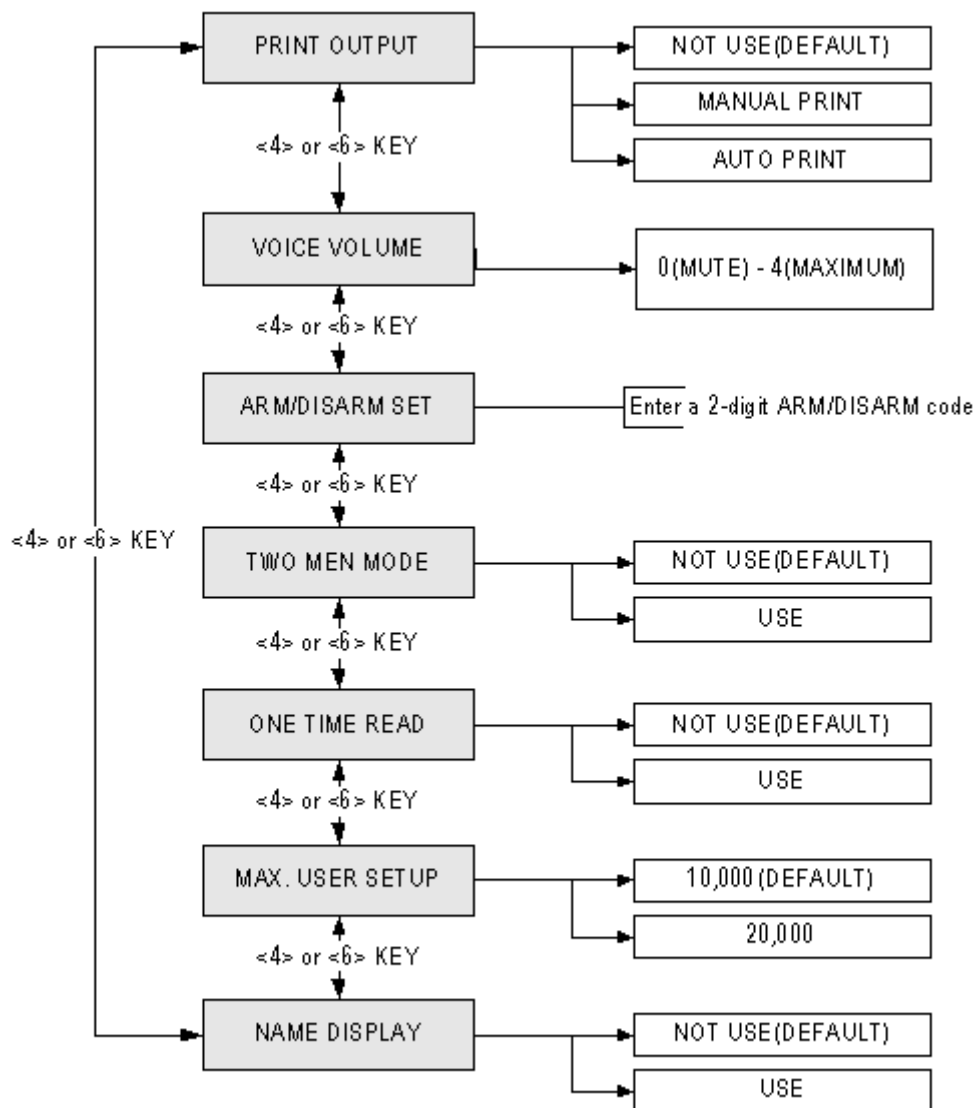
99

No alarm.

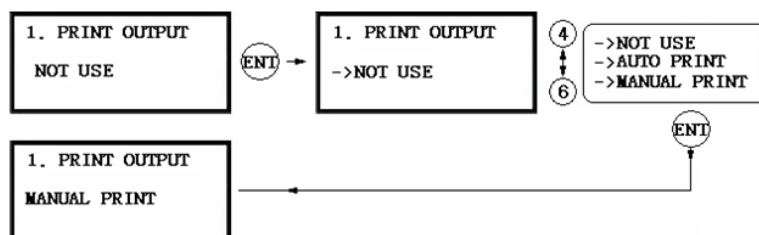


A Door Contact Sensor must be installed on the door for this application.

3 F3 SETUP MENU



3.1 Print Output



If connected to a serial printer, the LX505 can send the printer the details of new events including ID, data, time, function key, name, etc.



To print name, go to F3 > 7.NAME DISPLAY, then set it to 'USE'.

AUTO PRINT

Print outputs are generated for every new event.

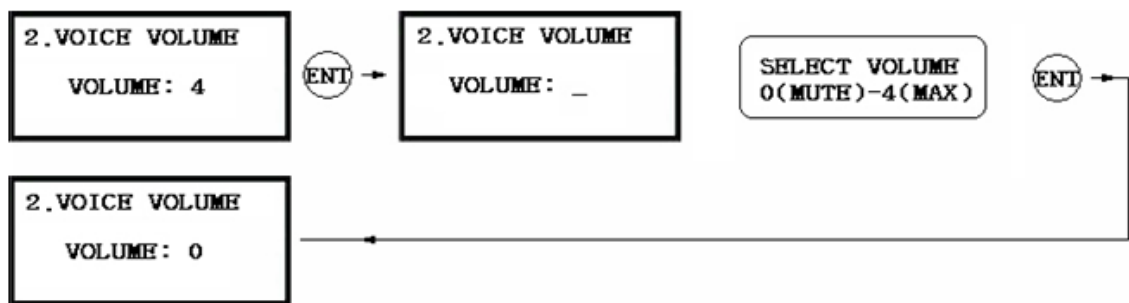
MANUAL PRINT

By pressing '0' (no printing) or '1' (printing) key, you can manually select whether or not to print a new event.

NOT USE

No printing output.

3.2 Voice Volume

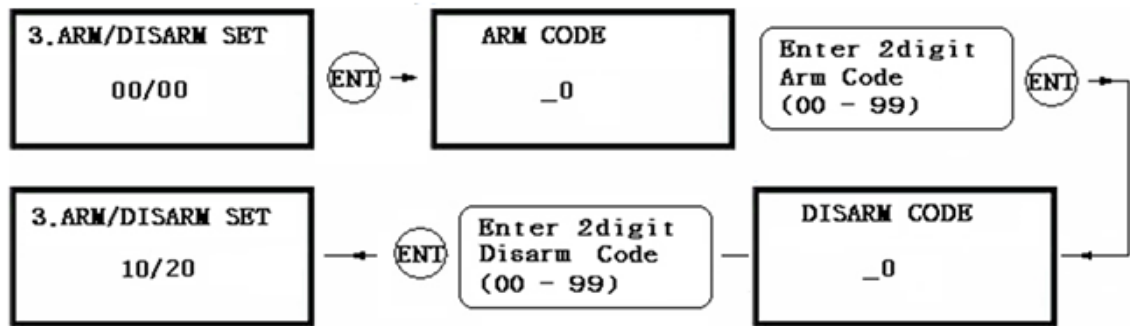


The LX505 tells you its status out loud. You can adjust the volume of the voice from 0 (mute) to 4 (maximum).



For customized voice messages other than the default voice messages, please contact IDTECK.

3.3 Arm/Disarm Setting

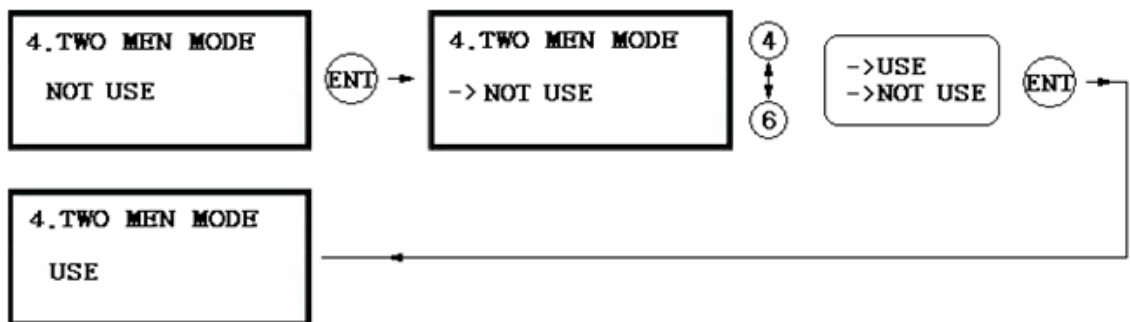


This setting allows you to set the Arm Code and the Disarm Code. After setting the Arm Code or Disarm Code, you can set the LX505 to the ARM mode by entering the ARM code and presenting an ARM/DISARM card (i.e. a card that was registered with Code 3). Once the LX505 toggles into ARM mode, all readers freeze and stop reading cards. To DISARM the LX505, enter the Disarm Code and present an ARM/DISARM card.



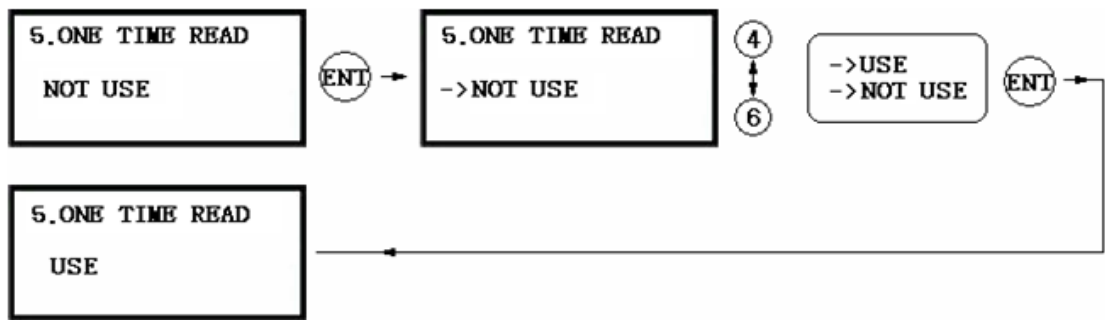
The ARM Code, DISARM Code, and Duress Code must all differ. If ARM/DISARM codes are both 00, Arm/Disarm function does not work.

3.4 Two Men Mode



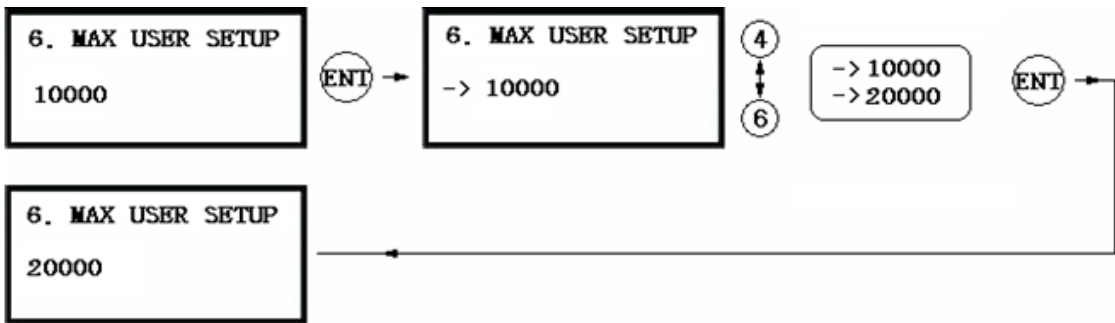
To apply this feature, cards designated for guides should be registered into the Guide Group (C:1) and visitor cards into the Visitor Group (C:2). If configured in the two-man mode, the LX505 won't grant access until one guide card and one visitor card are presented together within a certain time length.

3.5 One Time Read



If this option is set to USE, the same card can't be read twice in a row within 30 seconds.

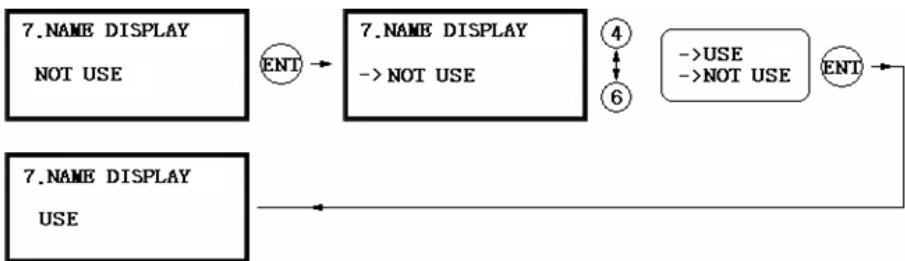
3.6 Max. User Setup



You can select the maximum number of user registrations; 10,000 or 20,000. If the maximum number of registrants is set to 20,000, the maximum number of event transactions becomes 10,000.

 CAUTION: Before changing the maximum number of users, you must initialize the device.

3.7 Name Display



The Name Display option is used to determine whether the unit will display the name of the user who receives access. This setting also determines whether to print name when printing events using serial printer.

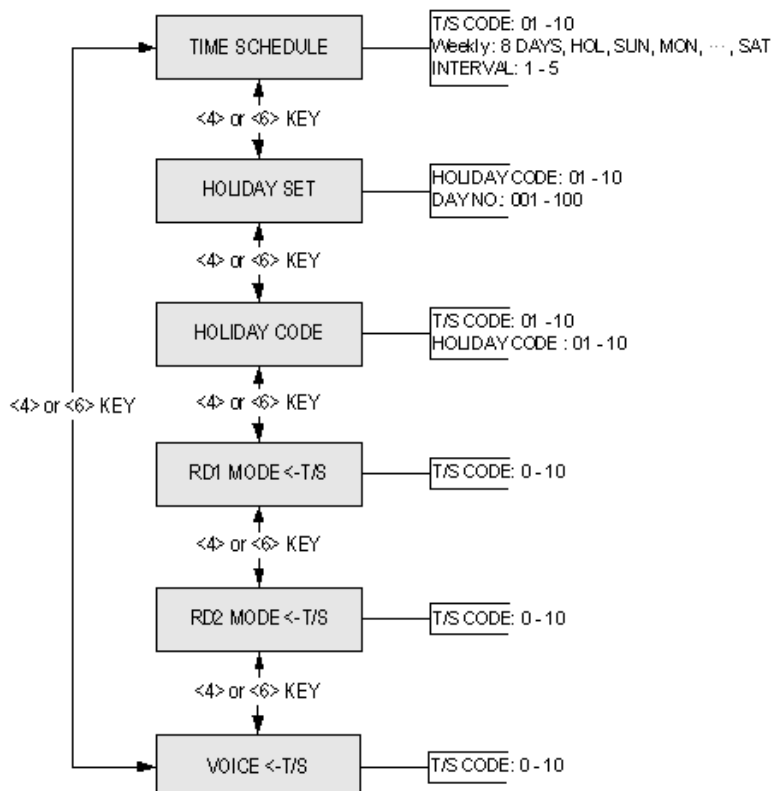


User names can only be downloaded from the software. If you register a new user via the device SETUP MENU, the name of the user can't be entered and, therefore, won't be displayed when the user receives access.

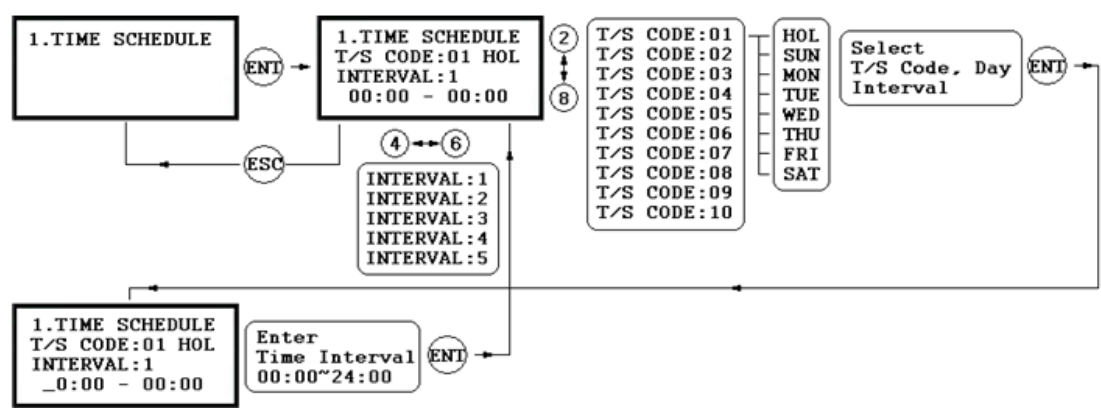


If you set this option to USE, the maximum number of IDs that can be registered is limited to 10,000. Also, you can set this option to USE only when there's no registered ID because the memory structure is different when the name display option is applied.

4 F4 SETUP MENU



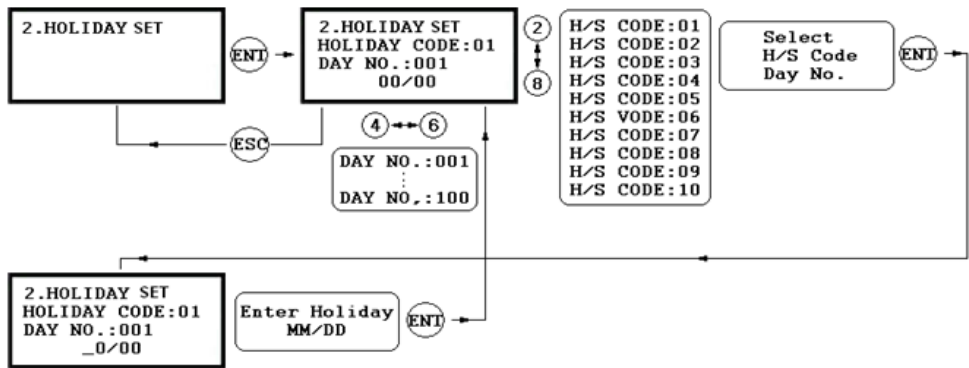
4.1 Time Schedule



There are 10 Time Schedule Codes available for users. Time Schedule Code “00” is the default setting that allows access to all users at any time. The user can program the Time Schedule Codes 01 to 10. Each Time Schedule Code has 8 programmable days (i.e. Sun, Mon, Tue, Wed, Thu, Fri, Sat and Holiday) and each day has 5 Time Intervals (i.e. Shift Time or Accessible Time Zone.)

The LCD will show the current Time Schedule settings such as T/S Code, Day, Time Interval and time period. Use <2> or <8> key to scroll up and down the Time Schedule Code (01~10) and a day of the week. (Mon - Sun and Holiday). Use <4> or <6> key to select Time Interval between 1 and 5. The Holiday in this Time Schedule will be linked to the Holiday Schedule Code. Select one of the Time Schedule Code, Day and Interval, and then press <ENT> key. This system is based on 24-hour system and therefore the time 00:00 and 24:00 refer to the same time and 12:00 refers to 12 O’clock afternoon. Enter the hour and minute of the start time and hour and minutes for end time of the Time Interval then press <ENT> key to store T/S to the memory. Press <ESC> key to return to the menu.

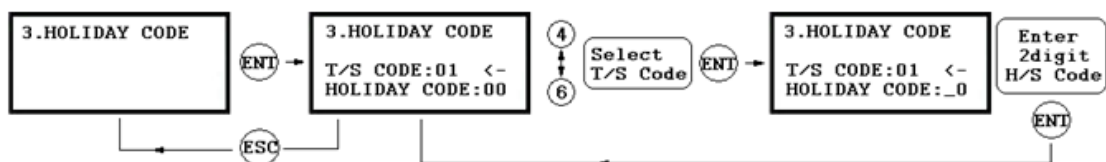
4.2 Holiday Setting



There are 10 Holiday Schedule Codes (H/S CODE) available for users. Holiday Schedule Code “00” is the default code, which includes no Holidays in it. The user can program the Holiday Schedule Codes 01 to 10. Each Holiday Schedule Code can have up to 100 programmable holidays.

The LCD will show current Holiday Code settings including H/S Code, Holiday number and Date. Use <2> or <8> key to scroll up and down from the Holiday Schedule Code 01 to 10 and use <4> or <6> key to select from Holiday number 001 to 100. Select one of the Holiday Schedule Code and Holiday number then press <ENT> key. Enter the month and date of the holiday, then press <ENT> key to store the Holiday Schedule to the memory. To return to the previous menu, press <ESC> key.

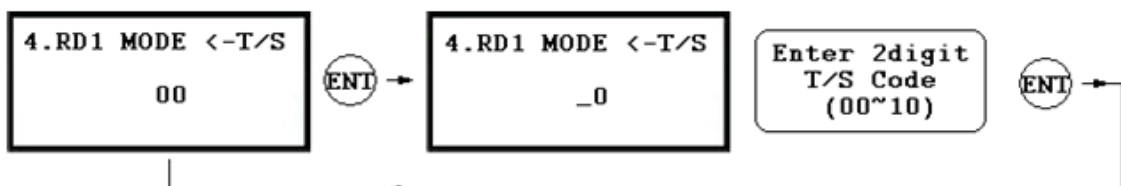
4.3 Holiday Code



The Holiday Code setting allows you to link a Holiday Schedule to a Time Schedule. A Time Schedule has 5 Time Intervals for holidays and the Time Intervals are applied only to the dates of this Holiday Schedule. The default Holiday Schedule Code is ‘00’ which means no holidays are applied to the Time Schedule.

Use <4> or <6> key to scroll up and down from the T/S Code 01 to 10 and press <ENT> key. Then, enter a 2-digit Holiday Schedule Code and press <ENT> key to store the changed Holiday Index settings to the memory. To return to the previous menu, press <ESC> key.

4.4 Reader#1 Mode Time Schedule



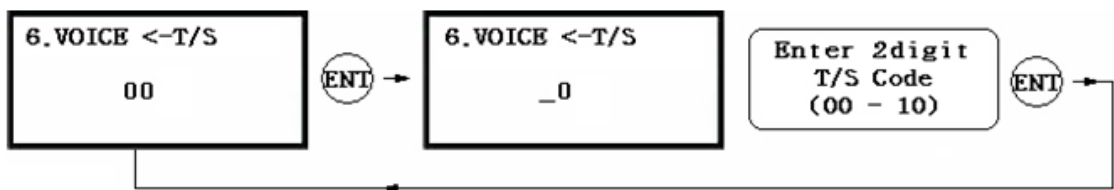
There are 2 system operating modes including ID Only Mode and ID+PW Mode. You can select one of these system operating modes at [R1 MODE SETTING] from [F1 SETUP MENU]. However, you may apply ID Only Mode during a certain Time Interval.

For example, suppose you want to access the door by only presenting a card from 09:00 to 17:00 and use the ID + PW verification for the rest of the time. Then, you can do so by setting [R1 MODE SETTING] to ID+PW Mode, which is for the system operating mode, and then program T/S Code 01 so that it can include a Time Interval between 09:00 and 17:00. Then, here, link the programmed Time Schedule Code 01 to the R1 MODE Time Schedule setting. To link a Time Schedule Code (01~10) to Reader#1 Mode, first, press <ENT> key and get into the setting mode. Then, enter the 2-digit Time Schedule Code and press <ENT> key to store and apply the Time Schedule Code to R1 MODE. To return to the previous menu, press <ESC> key.

4.5 Reader#2 Mode Time Schedule

The READER#2 MODE TIME SCHEDULE setting can be configured in the same way as READER#1 MODE T/S setting, which is explained in the previous section.

4.6 Voice Time Schedule



The Voice T/S feature allows you to apply time schedules to the voice message output. You can configure the unit to play voice messages in a certain time range and mute them at other times.

To apply a time schedule code, enter the time schedule code you want. Within the time range assigned by the time schedule, voice messages will be played while at other times, they will not be played.

Using this feature, for example, you can configure the unit to play voice messages in the day time and mute them at night.

5 F5 SETUP MENU

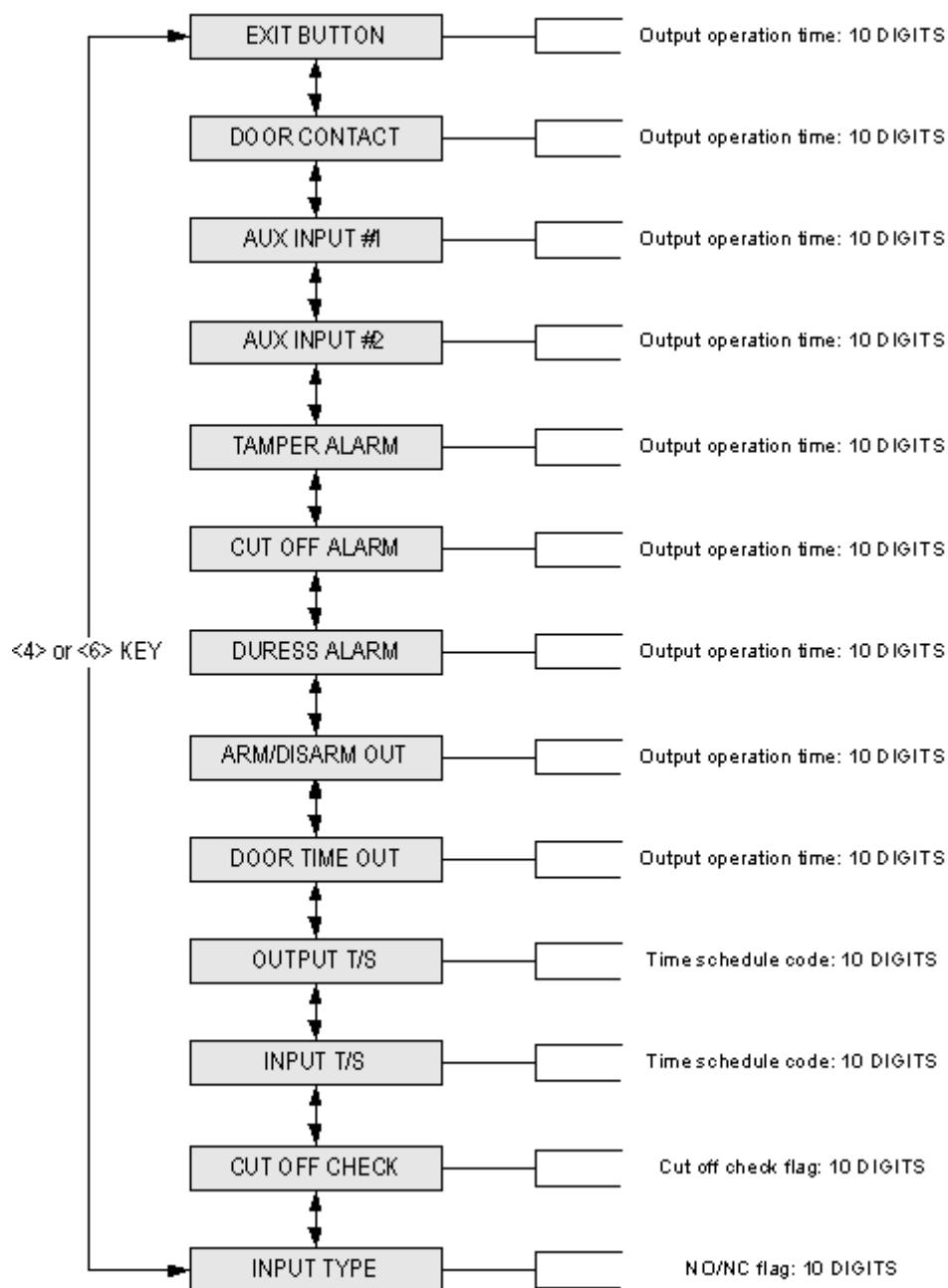
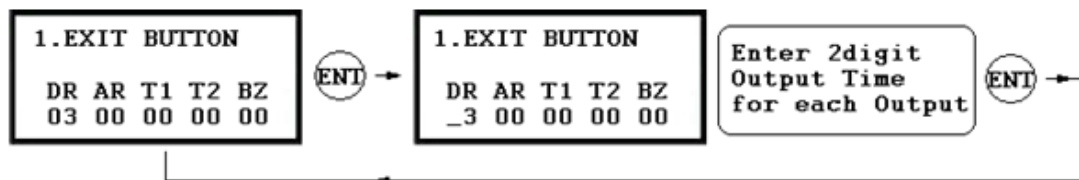


Table 12-1 Default Output Settings for Input Source

OUTPUT	Door Relay (DR)	Alarm Relay (AR)	TTL#1 (T1)	TTL#2 (T2)	Buzzer (BZ)
[1] EXIT BUTTON	03	00	00	00	00

[2] DOOR CONTACT	00	99	00	00	00
[3] AUX Input #1	00	00	00	00	00
[4] AUX Input #2	00	00	00	00	00
[5] TAMPER ALARM	00	99	99	99	99
[6] CUT OFF ALARM	00	00	00	00	00
[7] DURESS ALARM	00	00	00	00	00
[8] ARM/DISARM OUT	00	00	00	00	00
T					
[9] DOOR TIME OUT	00	99	00	00	00
[10] OUTPUT TIME S	00	00	00	00	00
SCHEDULE					
INPUT	Exit Button (EX)	Door Contact Sensor (DC)	Aux Input # 1 (I1)	Aux Input # 2 (I2)	Tamper Switch (TP)
[11] INPUT TIME SCHEDULE	00	00	00	00	00
[12] CUT OFF CHECK	00	00	00	00	00
[13] INPUT TYPE	00	00	00	00	00

5.1 Exit Button Output Setting



You can program the Output Activation Time, the length of time for which the output is activated after the EXIT button is pressed.

Let's say, we put '03' for one of the fields, If the unit of time is set to '1 sec', then the activation time will be 3 seconds. If the unit of time is set to '0.1 sec', then the activation time will be 0.3 seconds (or 300 ms.)

You can set the time somewhere between 00 and 98 seconds (or between 0.0 and 9.8 seconds if the Time Unit is set to 0.1 sec.) If you enter "99", the corresponding output will be activated forever until you reset the output.

DR

Door Relay Output

AR

Alarm Relay Output

T1

TTL#1 Output

T2

TTL#2 Output

BZ

Buzzer Output

5.2 Door Contact Output Setting

5.3 Aux Input#1 Output Setting

5.4 Aux Input#2 Output Setting

5.5 Tamper Alarm Output Setting

5.6 Cut Off Alarm Output Setting

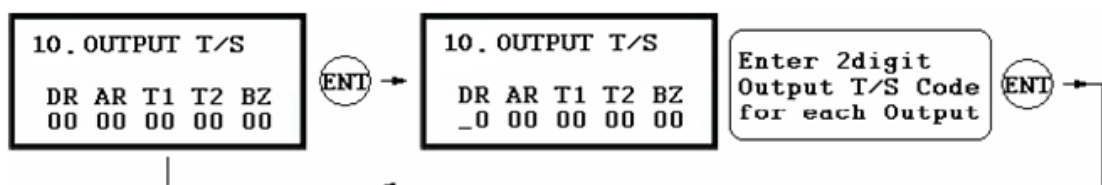
5.7 Duress Alarm Output Setting

5.8 Arm/Disarm Output Setting

5.9 Door Time Output Setting

The rest of output activation time settings above can be configured in the same way as the Exit Button Output Setting in the section 12.5.1, which means you can refer to that section to get some idea as to how to do the configuration.

5.10 Output Time Schedule Setting



You can assign a Time Schedule Code to each output. The default Time Schedule Code for every output is “00”, which means no Time Schedule is applied to them.

Changing these settings can be very useful when you want to leave the door open during a certain time period. Press <ENT> key enter the setting mode and enter a 2-digit Time Schedule Code for each output.

DR

Door Relay Output T/S Code

AR

Alarm Relay Output T/S Code

T1

TTL#1 Output T/S Code

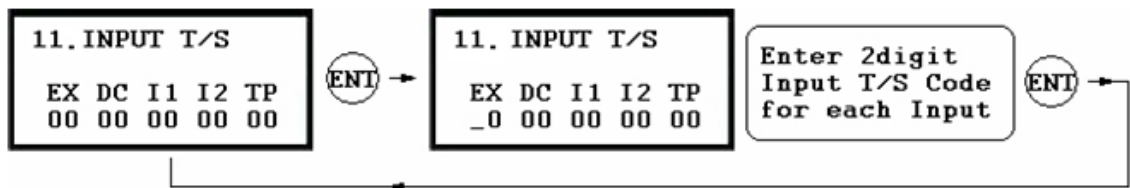
T2

TTL#2 Output T/S Code

BZ

Buzzer Output T/S Code

5.11 Input Time Schedule Setting



You can assign a Time Schedule Code to each input to activate the input only during that period. The default Time Schedule Code for every input is “00”, which means no Time Schedule is applied to them. Changing these settings can be very useful when you want to activate PIR sensor input during a certain period of time.

Press <ENT> key to enter this setting mode, and then enter a 2-digit Time Schedule Code for each input.

EX

EXIT Button Input T/S Code

DC

Door Contact Sensor Input T/S Code

I1

Aux Input#1 T/S Code

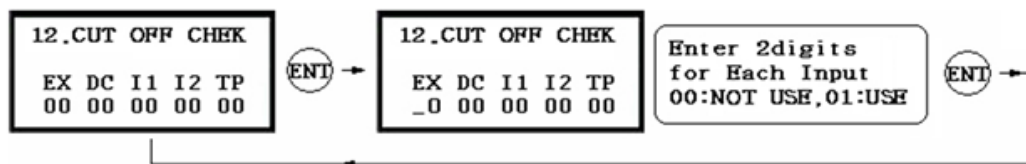
I2

Aux Input#2 T/S Code

TP

Tamper Switch Input T/S Code

5.12 Cut Off Check Setting



You can choose whether or not to check the connection cutoff of each input port. '00' means not using this feature and '01' means using it.

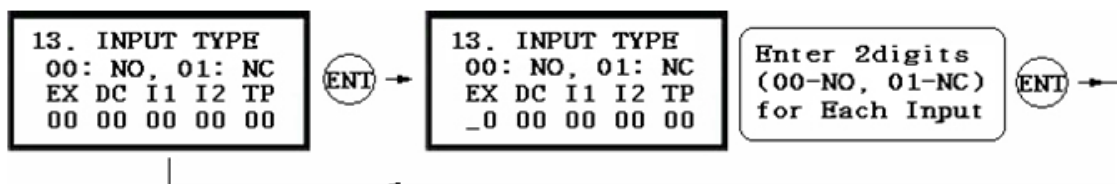
CAUTION: Before applying this feature, a 2.2K resistor should be connected between the input wire and the GND.

You can choose whether or not to check the connection cutoff of each input port. '00' means not using this feature and '01' means using it.



Before applying this feature, a 2.2K resistor should be connected between the input wire and the GND.

5.13 Input Type Setting



You can program each input for either NO(Normally Open) or NC(Normally Close) operation.

'00' means NO while '01' means NC. The default setting is 00(NO).

6 F6 SETUP MENU

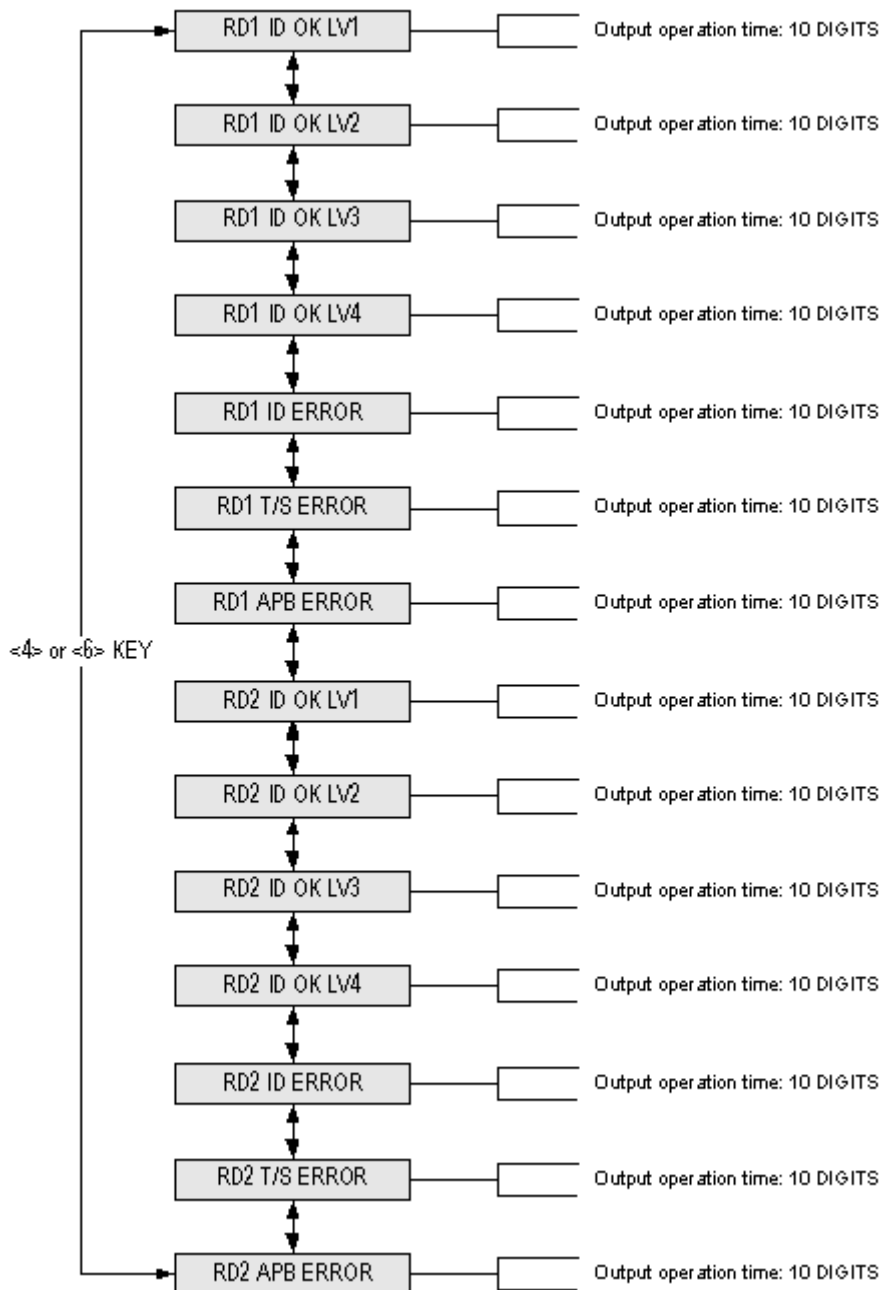
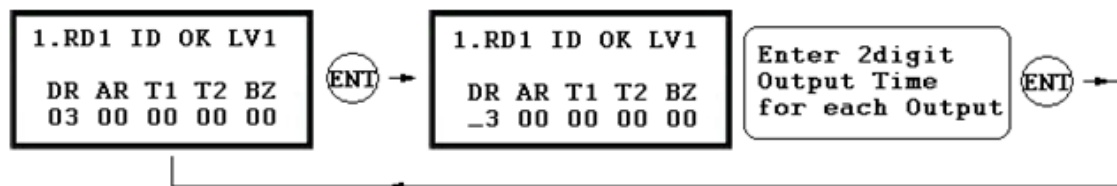


Table 12-2 Default Output Setting for Different Inputs

OUTPUT	Door Relay (DR)	Alarm Relay (AR)	TTL#1 (T1)	TTL#2 (T2)	Buzzer (BZ)
[1] Reader#1 ID OK LV1	03	00	00	00	00
[2] Reader#1 ID OK LV2	05	00	00	00	00
[3] Reader#1 ID OK LV3	05	00	00	00	00
[4] Reader#1 ID OK LV4	05	00	00	00	00
[5] Reader#1 ID Error	00	03	00	00	00
[6] Reader#1 T/S Error	00	03	00	00	00
[7] Reader#1 APB Error	00	03	00	00	00
[8] Reader#2 ID OK LV1	03	00	00	00	00
[9] Reader#2 ID OK LV2	05	00	00	00	00
[10] Reader#2 ID OK LV3	05	00	00	00	00
[11] Reader#2 ID OK LV4	05	00	00	00	00
[12] Reader#2 ID Error	00	03	00	00	00
[13] Reader#2 T/S Error	00	03	00	00	00
[14] Reader#2 APB Error	00	03	00	00	00

6.1 Output Setting for Reader#1 ID OK Level 1



You can program the Output Activation Time, the length of time during which the output is activated after the EXIT button is pressed. The actual Output Activation Time equals either V seconds, provided that the Time Unit is set to 1 second, or V/10 seconds, provided that the Time Unit is set to 0.1 second. (V=Activation Time Value assigned for each output.)

You can set the time somewhere between 00 and 98 seconds (between 0.0 and 9.8 second s if the Time Unit is set to 0.1 sec.) If you enter “99”, the corresponding output will be activated forever until you reset the Output.

DR

Door Relay Output T/S Code

AR

Alarm Relay Output T/S Code

T1

TTL#1 Output T/S Code

T2

TTL#2 Output T/S Code

BZ

Buzzer Output T/S Code

Output Time setting from 12.6.2 to 12.6.14 can be configured in the same way as 12.6.1 R D1 ID OK Level 1 Output setting.

6.2 Output Setting for Reader#1 ID OK Level 2

This output time is applied for the users registered with Level#2 output.

6.3 Output Setting for Reader#1 ID OK Level 3

This output time is applied for the users registered with Level#3 output.

6.4 Output Setting for Reader#1 ID OK Level 4

This output time is applied for the users registered with Level#4 output.

6.5 Output Setting for Reader#1 ID Error

This output time is applied when a user that is not registered in Reader #1 attempts access.

6.6 Output Setting for Reader#1 T/S Error

This output time is applied when a user attempts access before or after the time assigned by the applied time schedule.

6.7 Output Setting for Reader#1 APB Error

This Output Time is applied when a user who attempts access has violated the one-entry-on e-exit rule of Anti-pass-back.

6.8 Output Setting for Reader#2 ID OK Level 1

This Output Time is applied for the users registered with Level#1 output.

6.9 Output Setting for Reader#2 ID OK Level 2

This Output Time is applied for the users registered with Level#2 output.

6.10 Output Setting for Reader#2 ID OK Level 3

This Output Time is applied for the users registered with Level#3 output.

6.11 Output Setting for Reader#2 ID OK Level 4

This Output Time is applied for the users registered with Level#4 output.

6.12 Output Setting for Reader#2 ID Error

This output time is applied when a user that is not registered in Reader #2 attempts access.

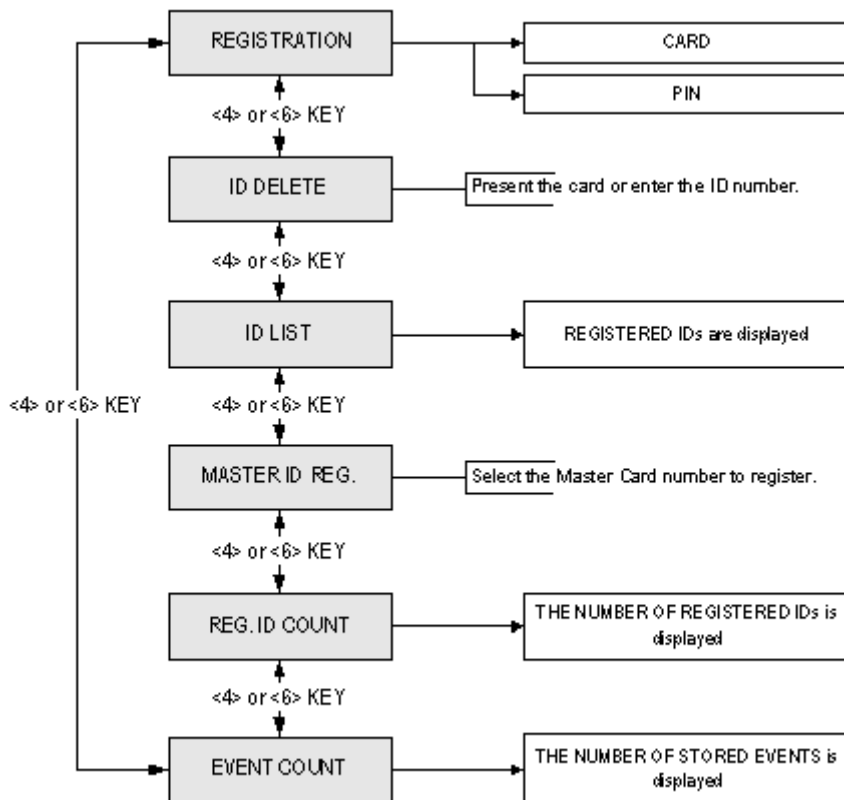
6.13 Output Setting for Reader#2 T/S Error

This output time is applied when a user attempts access before or after the time assigned by the applied time schedule.

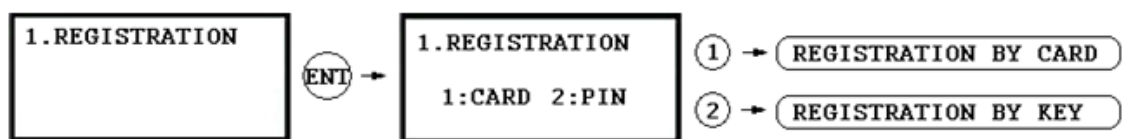
6.14 Output Setting for Reader#2 APB Error

This Output Time is applied when a user who attempts access has violated the one-entry-on-e-exit rule of Anti-pass back.

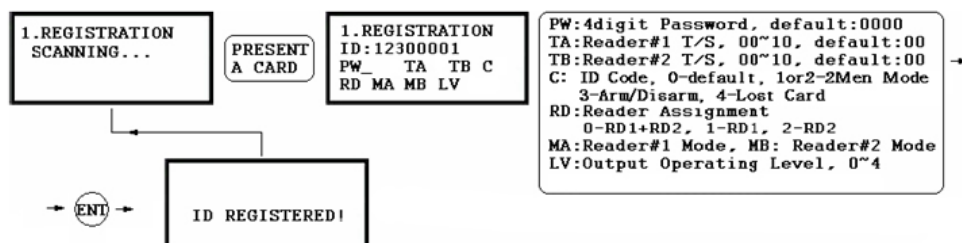
7 F7 SETUP MENU



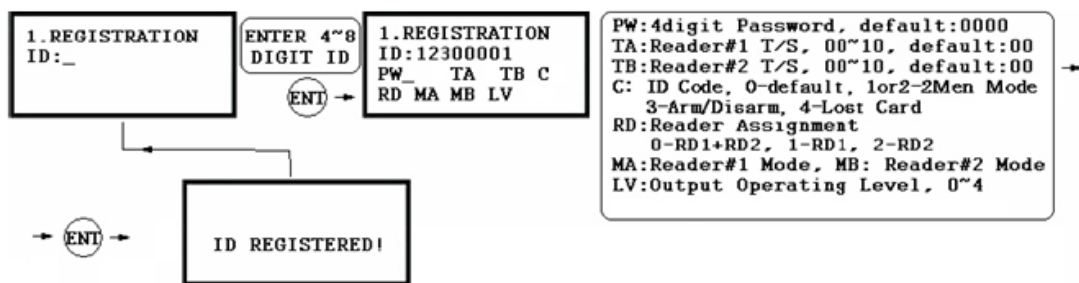
7.1 ID Registration



Registration by Card



Registration Using Keypad



In case you make a typing mistake during the registration process, you can press the F1 button to erase the errors.

Terminology

Scanning

means the reader is waiting for an ID number to be entered. The number of the card will appear with a beep sound when you present a card.

ID

refers to a Personal Identification Number (PIN) that consists of 4-8 digits. Enter a 4-8 digit ID number (PIN) and press <ENT> key. (An ID number of the LX505SR consists of 4-10 digits.)

PW

stands for a password that is required for verification in the RF + Password operating mode.

TA

refers to the Time Schedule code ('00' - '10') for the Reader#1 (i.e. the built-in reader). If you assign a Time Schedule in this field, the new cardholder can gain access only during the assigned Time Intervals. To set the Time Intervals for each Time Schedule code, refer to the instructions on the Time Schedule Setup in the [F4 SETUP MENU]. If you wish to give the cardholder unlimited access time, enter the default Time Schedule code '00' for the value.

TB

refers to the Time Schedule code ('00' - '10') for the Reader#2 (i.e. the exit reader). If you assign a Time Schedule in this field, the new cardholder can gain access only during

ng the assigned Time Intervals. To set the Time Intervals for each Time Schedule code, refer to the instructions on the Time Schedule Setup in the [F4 SETUP MENU]. If you wish to give the cardholder unlimited access time, enter the default Time Schedule code '00' for the value.

RD

refers to the Reader Assignment code for the cardholder. Entering the code '0' assigns both readers (Built-in Reader and Exit Reader) to grant access to the cardholder that is being registered, code '1' only assigns Reader#1 (Built-in Reader) and code '2' assigns Reader#2 (Exit Reader). If you enter '1' in the RD field (Only Reader#1 assigned) and try to exit through Reader#2 (Exit Reader) then the LX505 generates an error message ("Access Door Error") on the LCD display.

C

refers to the ID code. Code '0' is default and codes '1' and '2' are codes are used for the TWO MEN MODE. Code '3' is used for the ARM/DISARM function and code '4' is assigned for lost cards.

MA

refers to the Operating Mode that the new cardholder will use on Reader#1 (i.e. the built-in reader). If you enter '1' for MA, for example, this card holder will be able to gain access using his or her ID only.

'0' - Depend on System Operating Mode ([F1 SETUP MENU] > [READER#1 MODE])

'1' - ID Only Mode

'2' - ID + Password Mode

MB

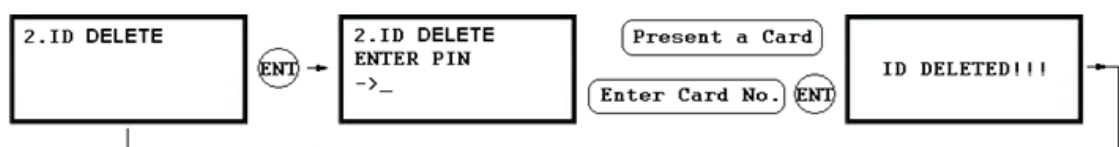
refers to the Operating Mode that the new cardholder will use on Reader#2 (Exit Reader).

'0' - Depend on System Operating Mode ([F1 SETUP MENU] > [READER#2 MODE])

'1' - ID Only Mode

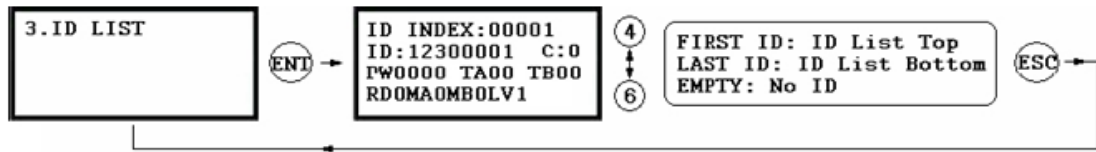
'2' - ID + Password Mode

7.2 ID Delete



Registered IDs can be deleted from the LX505 by presenting the card or entering the ID number. After entering the ID DELETE mode, present the card you want to delete. Alternatively, you may enter an 8 digit ID number and press <ENT> key from the keypad. The ID number will appear on the LCD and that ID will be removed from the device and the “ID DELETED” message will be shown on the LCD. If the ID number is not found, the “UNREGISTERED ID” message will appear. You can delete multiple IDs by repeating this process.

7.3 ID List



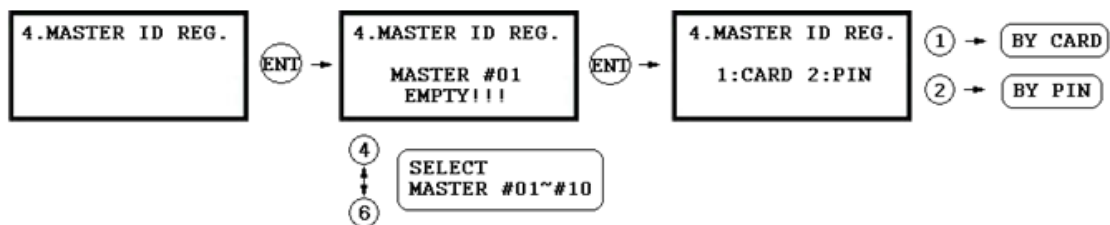
The LCD will display the 5-digit ID Index, 8-digit ID number, 4-digit Password, Timeschedule for Reader#1 (TA) and Reader#2 (TB), ID code (C), accessible Readers (RD), operating mode for Reader#1 (MA) and Reader#2 (MB), the output level (LV) and usage of Fingerprint (FP) for each user.

The “EMPTY” message will appear if there is no registered user ID.

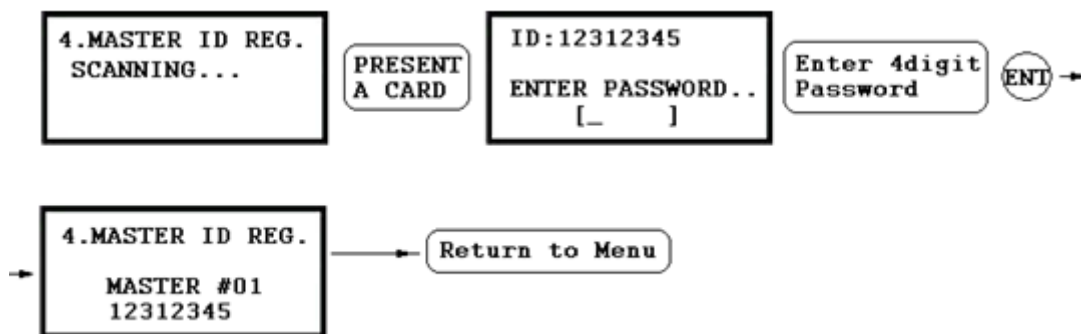
The “FIRST ID” message will appear if the ID on the LCD is on the top of the list.

The “LAST ID” message will appear if the ID on the LCD is on the bottom of the list.

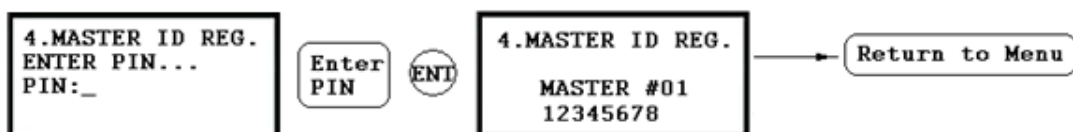
7.4 Master ID Registration



Master ID Registration by Card



Master ID Registration by PIN

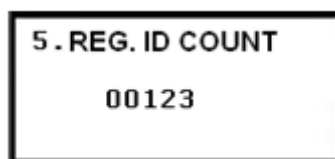


The default Master ID is "00000000" (or "0000000000" for LX505SR) without a fingerprint. Up to 10 Master IDs (from "01" to "10") can be stored in LX505.



To delete a Master ID, enter "00000000" (or "0000000000" for LX505SR) in the Master ID Registration process.

7.5 Registered ID Count

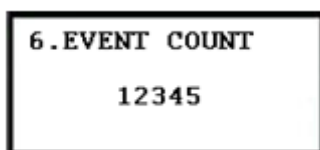


The number of registered user IDs is displayed. This count automatically increases or decreases as new IDs are registered or old IDs are deleted. The LCD in the left picture shows that the total of 123 user IDs are registered in the memory.



1,000 users in total can be registered (standard). You can optionally choose to register up to 2,000/4,000 user IDs

7.6 Event Count

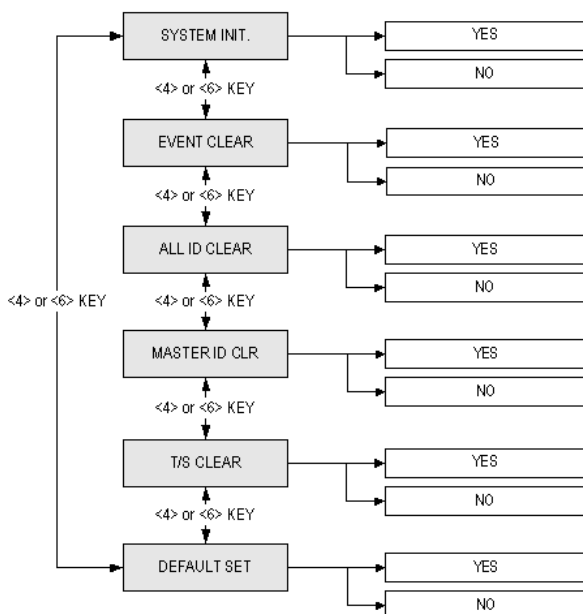


The LCD displays the total number of events stored in the memory. The count automatically increases as a new event is recorded in the memory. The LCD in the left figure shows that a total of 12345 Events are stored in the memory.

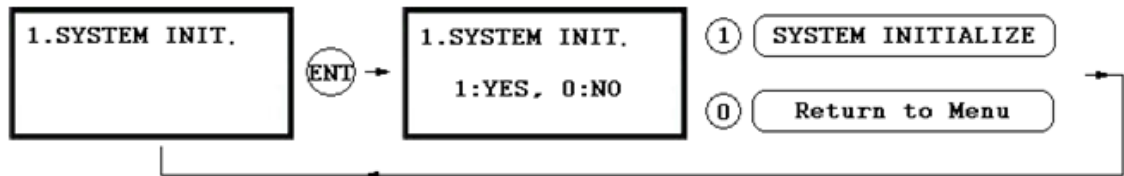


Up to 20,000 event buffers are available. When stored events are successfully uploaded to the host PC, they are automatically deleted from the device.

8 F8 SETUP MENU



8.1 System Initialization



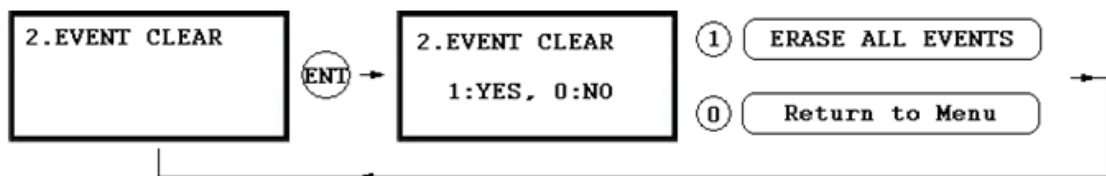
This operation is used to initialize the LX505 system. Press **<ENT>** key for initialization (when installing LX505 first or when resetting the system in the event of malfunction).

- Press the **<1>** key to initialize or **<0>** key to cancel the operation.
- The "WAIT.." message appears while the system is being initialized. After the initialization is completed, the LX505 returns to the Setup menu.



Initializing will erase all stored data in the memory. Before you clear the data, make sure that the stored events are unnecessary. If you need to keep the event data, please upload the data to the host PC; otherwise, you may lose all important data.

8.2 Event Clear

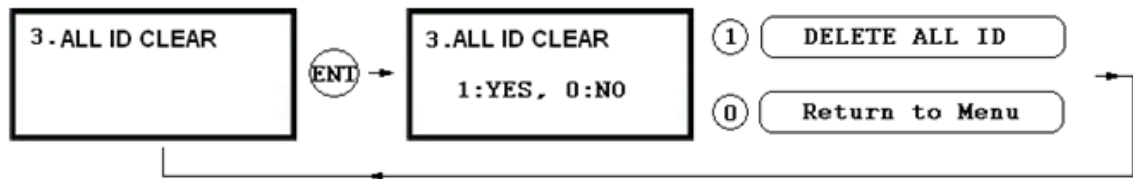


If the event memory is full, you can clear the event memory here. Press **<ENT>** key, then press **<1>** key to clear event memory or **<0>** key to cancel the operation.



Before you clear the events, make sure that the stored events are unnecessary. If you need to keep the event data, please upload the data to the host PC; otherwise, you may lose all important data.

8.3 All ID Clear

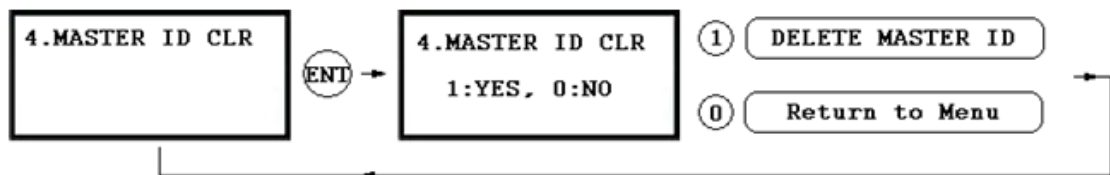


When you want to delete all the stored User IDs, you can do so in this menu item. Press **<ENT>** key first, then press **<1>** key to clear all the registered User IDs or **<0>** key to cancel the operation.



Before clearing all the User IDs, make sure that the registered User ID is no longer used or necessary; otherwise you may lose all the registered User IDs.

8.4 Master ID Clear

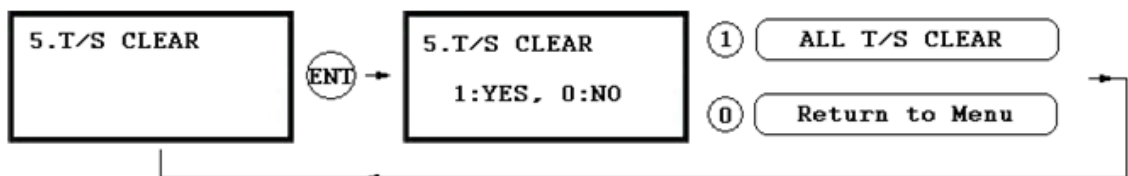


To delete all Master IDs, press **<ENT>** key first, then press the **<1>** key to clear all of the Master IDs or **<0>** key to cancel the operation.



Before clearing all Master IDs, make sure that registered Master IDs are no longer used; otherwise, you may lose all registered Master IDs.

8.5 Time Schedule Clear



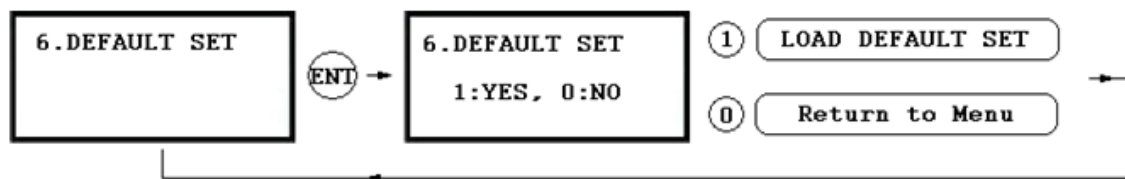
When you want to delete all the Time Schedules (01~10), Holiday schedules(01~10), Holiday

y code, Reader#1 Mode Time Schedule code and Reader#2 Mode Time Schedule code, you can clear them from the memory here. Press <ENT> key first and press the <1> key to clear all I T/S or <0> key to cancel the operation.



Before you clear all Time Schedule data, make sure that the stored Time Schedule data are no longer used or necessary; otherwise, you may lose all stored Time Schedule data in the memory including important ones.

8.6 Default Setting

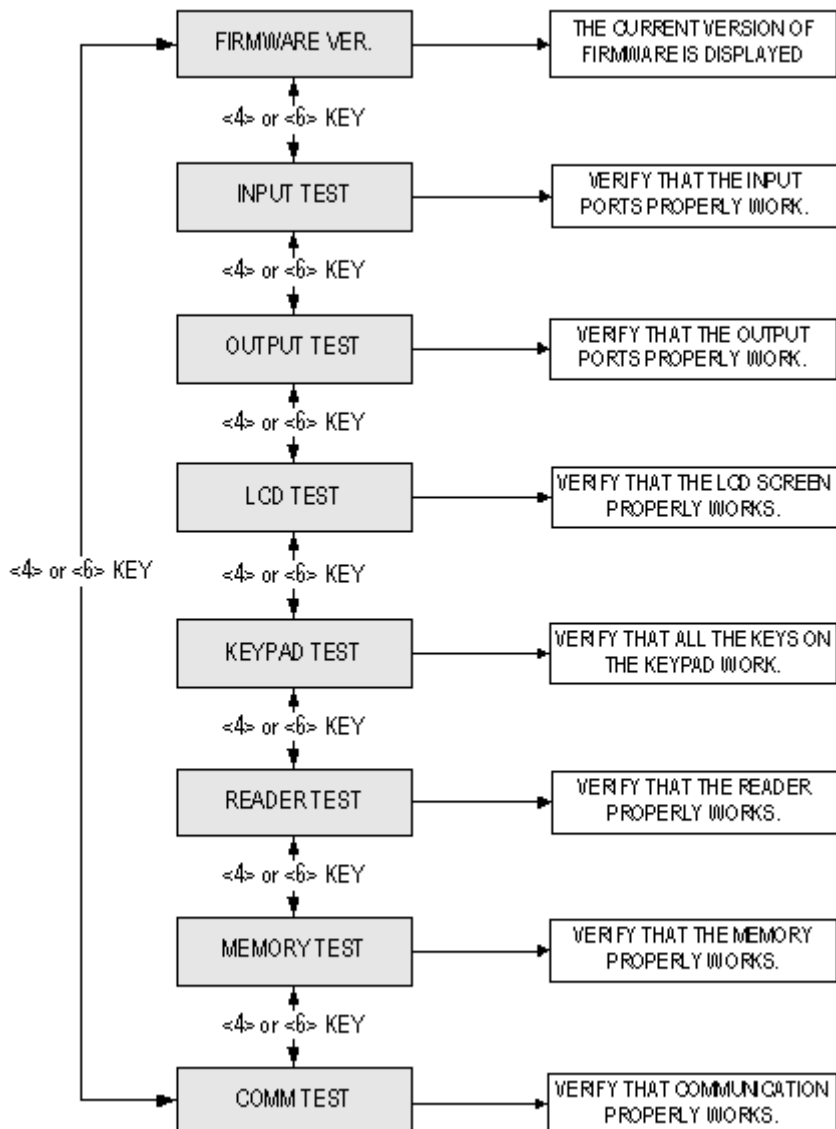


Here, you can restore the default settings of the LX505, if necessary. Press <ENT> key and press <1> key to restore the default setting values for all menus and or <0> key to cancel the operation.



Before restoring default values for all settings such as Reader Mode, COMM Address etc, make sure that the stored setting values are not necessary; otherwise, you may lose all system setting values in the memory and need to adjust the settings all over again.

9 F9 SETUP MENU



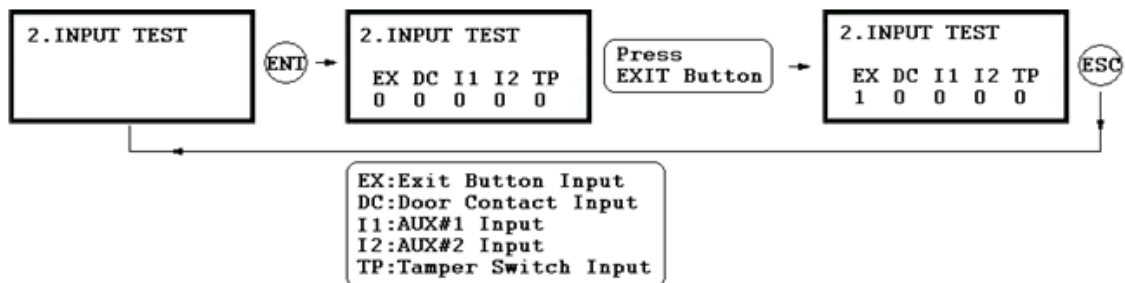
9.1 Firmware Version Check

1.FIRMWARE VER.
LX505
V 4.0.0
2010/01/15

The Firmware Version of the unit is displayed on the LCD. Press **<4>** or **<6>** key to see other items of the menu on **[F9 SETUP MENU]**.

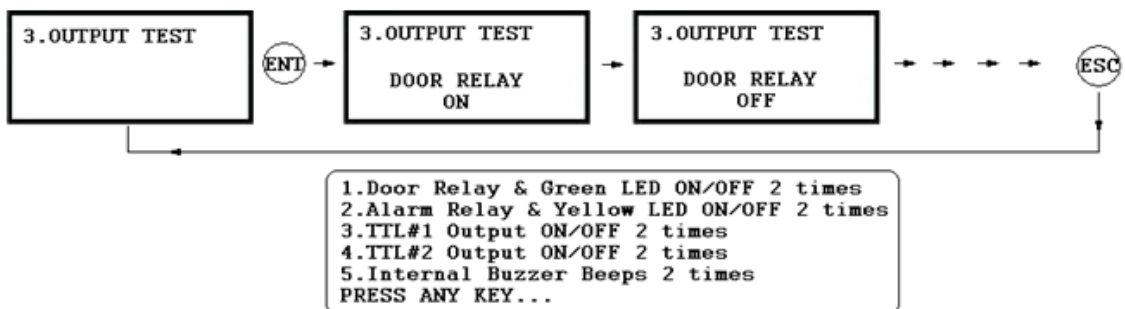
The Firmware Version of the unit is displayed on the LCD. Press <4> or <6> key to see other items of the menu on [F9 SETUP MENU].

9.2 Input Test



The 5-digit number shows the input status, where “0” indicates that the input port is open circuit, and “1” indicates that the input port is short circuit to the ground level, and, finally, “2” indicates that the input port is disconnected.

9.3 Output Test



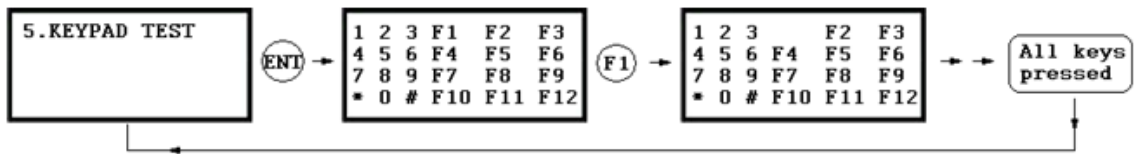
The first two tests verify the output relays (Door Relay and Alarm Relay) are working properly. You can hear the mechanical sound of relays and see the LED blink. The next two tests are to verify TTL#1 and TTL#2 outputs. Finally, the last test is for an Internal Buzzer test. You can hear two beeps during the test.

9.4 LCD Test



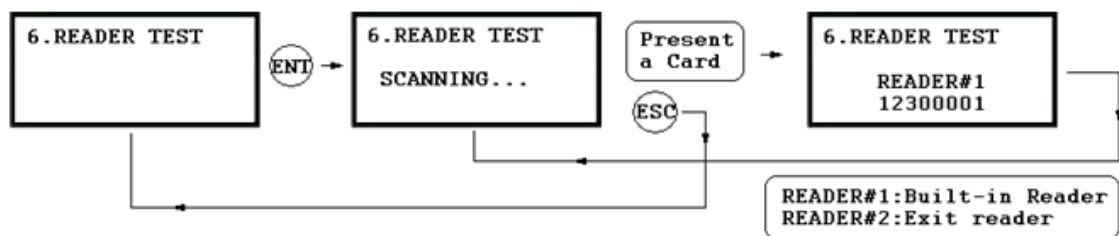
The LCD will display test screens. When the test is over, the LCD will show the “LAST UPDATE PRESS ANY KEY” message.

9.5 Keypad Test



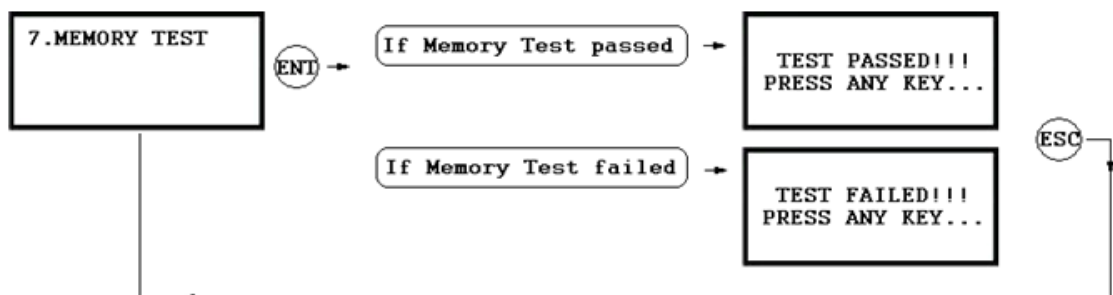
The LCD will display all the keys on the keypad. Press each key one by one and the depressed key will disappear from the screen. Note that ENT key is represented as “#” and ESC key as “*” on the LCD.

9.6 Reader Test



The LCD will display “Scanning...”, which means the LX505 is waiting for a card to be presented. Present a card to one of the readers. When the reader successfully reads the card, the LCD displays the Reader number and the 8-digit (or 10-digit for LX505SR) card number.

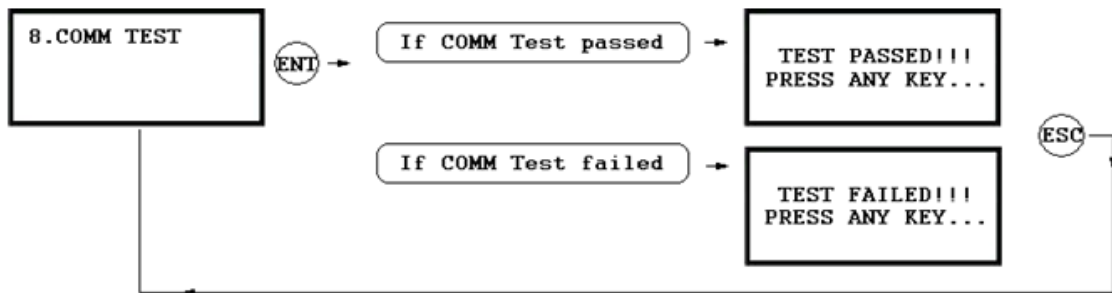
9.7 Memory Test



After Memory Test, If the Data Memory has a problem, the LCD will show the “TEST FAILED”

message. If this is the case, contact IDTECK or a nearby distributor for technical supports.

9.8 Communication Test



You can test whether the communication works properly or not. Before executing this test, remember to connect the RS232 TX wire (Black wire with White stripe) and the RS232 RX wire (Red wire with White stripe) together.

If the communication is malfunctioning, the LCD will show the "TEST FAILED" message. If this is the case, check the communication settings and try again.

If the communication is working properly, the LCD will show the "TEST PASSED" message.

After the test is finished, please put the wires back in their original places.

1 A. THE RELATION BETWEEN INPUT AND OUTPUT (DE FAULT)

Table 13-1 Default Output Settings for Input Sources

OUTPUT	Door Relay (DR)	Alarm Relay (AR)	TTL#1 (T1)	TTL#2 (T2)	Buzzer (BZ)
[1] EXIT BUTTON	03	00	00	00	00
[2] DOOR CONTACT	00	99	00	00	00
[3] AUX Input #1	00	00	00	00	00
[4] AUX Input #2	00	00	00	00	00
[5] TAMPER ALARM	00	99	99	99	99
[6] CUT OFF ALARM	00	00	00	00	00
[7] DURESS ALARM	00	00	00	00	00
[8] ARM/DISARM OUT	00	00	00	00	00
[9] DOOR TIME OUT	00	99	00	00	00
[10] OUTPUT TIME SCHEDULE	00	00	00	00	00
INPUT	Exit Button (EX)	Door Contact Sensor (DC)	Aux Input #1 (I1)	Aux Input #2 (I2)	Tamper Switch (TP)
[11] INPUT TIME SCHEDULE	00	00	00	00	00

[12] CUT OFF CHECK	00	00	00	00	00
[13] INPUT TYPE	00	00	00	00	00

*** Index No. [1] - [9]**

The values indicate the operating time of each output for the input signal. 99 denotes "forever".

*** Index No. [10]**

The values indicate the time schedule code (index) applied to each output.

*** Index No. [11]**

The values indicate the time schedule code (index) applied to each input.

*** Index No. [12]**

The values indicate whether or not to use the cut off check feature for each input. (0 - NOT USE, 1 - USE)

*** Index No. [13]**

The values indicate whether the input type is NO(Normally Open) or NC(Normally Closed). (0 - NO, 1 - NC)

Table 13-2 Default Output Settings for Input Circumstance

OUTPUT INPUT	Door Relay (DR)	Alarm Relay (AR)	TTL#1 (T1)	TTL#2 (T2)	Buzzer (BZ)
[1] Reader#1 ID OK LV1	03	00	00	00	00
[2] Reader#1 ID OK LV2	05	00	00	00	00
[3] Reader#1 ID OK LV3	05	00	00	00	00
[4] Reader#1 ID OK LV4	05	00	00	00	00
[5] Reader#1 ID Error	00	03	00	00	00
[6] Reader#1 T/S Error	00	03	00	00	00
[7] Reader#1 APB Error	00	03	00	00	00
[8] Reader#2 ID OK LV1	03	00	00	00	00
[9] Reader#2 ID OK LV2	05	00	00	00	00
[10] Reader#2 ID OK LV3	05	00	00	00	00
[11] Reader#2 ID OK LV4	05	00	00	00	00
[12] Reader#2 ID Error	00	03	00	00	00
[13] Reader#2 T/S Error	00	03	00	00	00
[14] Reader#2 APB Error	00	03	00	00	00

The values indicate the operating time of each output for the input signal.

2 TROUBLESHOOTING

☞ A valid card became unregistered after batch-downloading IDs from PC.

Cause	Wrong download procedure or a component defect.
Solution	The card ID might be registered only on the controller and not on the PC. During the process of batch-downloading IDs from the PC, the LX505 first erases the ID memory in it. That's why this deletion of certain IDs can happen if those IDs were not registered on the PC at the point of batch-downloading. Check whether the card ID is registered in the PC or not. If not, please register the number and try downloading again. If the trouble remains after following the procedures above, contact a designated service center.

☞ I entered the Master ID "00000000" but I still cannot enter the Setup Mode.

Cause	The Master ID might have been changed or some components are defective.
Solution	1. Try changing the Master ID through the application software. (The Master ID will be changed to the default value "00000000".) 2. When it is not feasible, initialize the unit as following: After the installation and connections are completed, supply power (+12V DC) to the LX505 with the initialization button being held down. Then, the LCD will first display "Initialize OK? 1:Yes 0:No". Press <1> key if you want to initialize the system. After all the initialization process is completed, the system will be operating on the normal mode and the LCD will display "IDTECK, LX505 [F1], Date Time". 3. If the trouble persists after following the procedures above, contact a designated service center.

☞ No problem with accessing by card, but cannot access via a manual PIN input.

Cause	An error in the settings or possible component defect.
Solution	1. Check whether a beep sounds when you press a key. If a beep sounds, the problem may be wrong settings. Proceed as followings: - Enter the Master ID (Default="00000000") to get into the Setup mode.

- Press <F2> key.
- [LANGUAGE] will appear on the LCD, then use the <6> key to choose [RD 1_PIN_INPUT] and press [ENT] key to modify the value to 'USE' by using <4> or <6> key.
- 2. When there is no beep sound or the problem persists after the keypad has been enabled, contact a designated service center.

☞ The unit suddenly returns from Setup Mode to normal operating mode.

Cause	Time-out error
Solution	The LX505 is originally programmed to go back to the normal operating mode when no keys are pressed or no cards are read within 60 seconds.

☞ The buzzer keeps beeping; “beep~ beep ~ beep” or “beeeeeeeep~~~~”.

Cause	An error in the Installation, Door status or Internal circuits.
Solution	1. Check the door status. It occurs when the door is opened over 3 sec (De fault). 2. Check the door contact sensor type: it must be NO/NC-type. 3. Check the 10 Time schedule code (01~10) values of output T/S, in [7. O UTPUT T/S] of F6 Setup Menu. This problem can occur if the time schedule code is set between 01 and 10 and the present time is within the time zone of the selected schedule. If the wrong time schedule is selected, cancel it by assigning the blank time schedule code “00” 4. Check the Tamper switch of the LX505. 5. If the trouble persists after checking the above, contact a designated service center.

☞ The “SCHEDULE ERROR” message appears when an RFID card is read.

Cause	An error in RFID card registration, time schedule setting or the system itself.
Solution	1. If the LX505 used to be properly operating before, it is likely that there has been an electric shock that damaged the internal memory and data. Please initialize the unit as instructed in the manual. 2. Check if the ID information has been configured incorrectly. • Register ID again and check the following points. - In order to restrict access of a user within a specific time zone as instructed in the manual, register time schedule in advance and apply the time schedule code(1~10) to the user during the registration process. - In order to allow the user to access at all times, enter “00”. 3. Use the software for time schedule settings if the LX505 is connected to a PC. Refer to the software manual for more details. 4. If the trouble persists after checking the above, contact a designated service center.

vice center.

☞ The “ACCESS DOOR ERR” message appears when an RF ID card is read.

Cause	Incorrect user setting or something wrong with internal circuits.
Solution	1. If the LX505 used to operate properly before, it is likely that there has been an electric shock that damaged the internal memory and data. Please initialize the unit as instructed in the manual. 2. Check if the ID information has been entered incorrectly during its registration. • Register the ID again and check the following points: - Since the controller has two reader ports, set the “RD” setting - the door to which the user will be allowed access - to an appropriate value. - If the RD value is set to “1”, the door opens only when Reader 1 reads a card. If the card is presented to Reader 2, the “ACCESS DOOR ERROR” message will appear. - If the RD value is set to “2”, the door opens only when Reader 2 reads a card. If the card is presented to Reader 1, the “ACCESS DOOR ERROR” message will appear. - If the RD value is set to “0” or “3”, both the reader 1 and 2 will open their doors when a registered card is presented to them. 3. If the trouble persists after checking the above, contact a designated service center.

☞ The communication between the LX505 and the Host PC fails.

Cause	A defective cable may be being used or there have been errors in wiring, the COMM ID setting for the controller, or damage on the communication port (either on the PC side or the controller side).
	1. Please check the settings of the application software and the controller. - Check if the COMM ID of the controller is listed on the application software. - Set the different COMM ID when two or more controllers are installed. - Check if the communication speed (57600bps is default) is the same as the setting on the software. - Make sure that the PC’s COM port is set correctly on the S/W. - The parameters in the software should be set as following: Parity bit : NONE Data bit : 8 bits Stop bit : 1 bit 2. Check the wiring for communication.

RS232		RS485 (mono)		
LX505	PC	LX505	RS485/232 Converter	PC
RX	TX	RTX(-)	RTX(-)	The RS232 cable from the converter
TX	RX	RTX(+)	RTX(+)	
GND	GND			

RS485(Multi Drop)			
LX505	LX505	RS485/232 Converter	PC
RTX(-)	RTX(-)	RTX(-)	The RS232 cable from the Converter
RTX(+)	RTX(+)	RTX(+)	

3. We recommend you use line-end resistors of 120 Ohm between the RTX (+) and RTX (-) wires when you are using the long-distance RS485 communication. Apply the same resistors to the Converter RS485 wires. Consult a service center or an electric technician if you are not sure how to do it.
 4. When a multi-drop communication doesn't work, test one-to-one communication first.
 5. If the trouble persists after following the procedures above, contact a designated service center.
-

FCC Requirements Part 15

***Caution:** Any changes or modifications in construction of this device which are not expressly approved by the responsible for compliance could void the user's authority to operate the equipment.*

***NOTE:** This device complies with **Part 15 of the FCC rules**.*

Operation is subject to the following two conditions:

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

This equipment has been tested and found to comply with the limits for a **Class A Digital Device**, pursuant to **Part 15 of the FCC rules**. These limits are designed to 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.

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on another circuit.
4. Consult the dealer or an experienced radio/TV technician for help.

If you have any questions or problems regarding the RMA services, please contact us using the contact information below. Friendly representatives at IDTECK are always standing by to provide the best after sales services.

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The specifications contained in this manual are subject to change without notice at any time.