



# **Touchpad Access Cylindrical Lock Installation Instructions**

**INSTALLER NOTE:** 

Failure to follow these instructions could result in damage to the lock and void the factory warranty.



For Technical Assistance contact contact ARROW LOCK 1-800-221-6529 www .arrowlock.com

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#### **WARNINGS**

CAUTION: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

IMPORTANT: The accuracy of the door preparation is critical for the proper functioning and security of this cylindrical product. Misalignment can cause premature wear and a lessening of security.

Finish Care: This lockset is designed to provide the highest standard of product quality and performance. Care should be taken to insure a long-lasting finish. When cleaning is required use a soft, damp cloth. Using lacquer thinner, caustic soaps, abrasive cleaners or polishes could damage the coating and result in tarnishing.

Attention Installer: Any retrofit or other field modification to a fire rated opening can potentially impact the fire rating of the opening, and Arrow Lock & Door Hardware makes no representations or warranties concerning what such impact may be in any specific situation. When retrofitting any portion of an existing fire rated opening, or specifying and installing a new fire-rated opening, please consult with a code specialist or local code official (Authority Having Jurisdiction) to ensure compliance with all applicable codes and ratings.

#### INTRODUCTION

Arrow® Revolution Stand-alone Touchscreen Access Lock combines robust cylindrical locksets with a contemporary electronic aesthetic.

Users benefit from an interactive touchscreen that makes day-to-day access effortless and offers voice-guided programming for simple updates to user information in the event of staffing changes or security breaches.

*Revolution* is engineered for quick and easy installation and fits into the standard ANSI/BHMA A156.115 cylindrical locks with lever door prep with only one additional 3/4" hole and 7 screws including latchbolt and strike.



#### COMPONENTS AND TOOLS

## In the box, you should find...

**Quick Start Instructions** 

Installation Instructions

Door Marker

**Outside Touchscreen Assembly** 

Inside Escutcheon Assembly:

Inside Support Assembly

Inside Escutcheon

Inside Lever Handle

**Battery Cover** 

4 AA Alkaline Batteries

Latchbolt

Strike

Allen Wrench 3/32" (2.5mm)

Lever Removal Tool

Screw Pack (7 screws)

2 Keys (If cylinder included)

#### **Parts Illustrations**



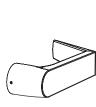
Outside Touchscreen Assembly



Inside Support Assembly



Inside Escutcheon



Inside Lever Handle



Battery Cover 4 AA Alkaline Batteries



Latchbolt Strike

#### Tools

#### **Door Prep**

- 2-1/8" (54mm) hole saw
- 1" (26mm) boring bit
- 3/4" (19mm) drill bit
- 5/16" (8mm) drill bit
- 7/64" (2.5mm) drill bit
- Chisel & hammer
- 3/8" or 1/2" drill

#### **Lock Installation**

- #2 phillips screw driver
- Lever removal tool (supplied)
- 3/32" Allen wrench (supplied)

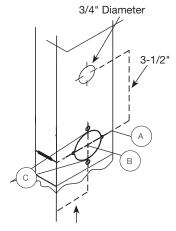


#### DOOR PREPARATION

#### **Mark Door**

Verify backset before marking and drilling door.

- A. Mark horizontal line across edge of door 40-5/16" (1024mm) from floor.
- B. Fold door marker over the edge of the door, centering on the horizontal line.
- C. Mark centers of holes at proper backset. For beveled and square edge doors, mark both sides of the door.



Backset 2-3/4"

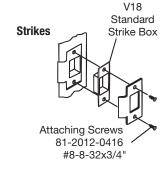
#### **Drill Door**

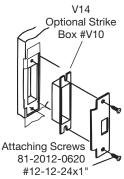
- A. Drill 2-1/8" (54mm) dia. hole through the door. Cut notches as shown on template.
  - Note: To avoid splintering wood doors, drill holes (A), (B) and (D) from both sides of the door.
- B. Drill 3/4" (19mm) diameter hole through the door according to door marker. (See note above.)
- C. Drill 1" (25mm) diameter hole in edge of door. Mortise for latchbolt front 1-1/8" (29mm) wide x 2-1/4" (57mm) high by 5/32" deep.
- D. Drill two (2) 5/16" (8mm) diameter holes through door (see note, above).
- E. Drill pilot holes for latchbolt screws. 7/64" (2.5mm).

# A D D

# Prepare and Install Strike (Wood Frames Only)

- A. Close the door and mark a horizontal line from the center of the template to the frame of the door.
- B. Measure half the thickness of the door. Mark this same distance with a vertical line starting from the stop side of the frame. Where both lines cross make a 1" (25mm) diameter hole, 1/2" (13 mm) in depth.
- C. Align the holes of the strike with the vertical line. Trace the outline of the strike and mortise with a 1/16" (1.6mm) depth. Attach the strike with two screws (provided).





#### PREPARE LOCK FOR INSTALLATION

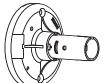
#### **Unpack the Lock**

The lock is packed representative of how it will install on the door.

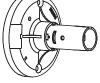
#### Before installation:

- A. Disassemble the inside escutcheon
  - 1. Remove the inside lever with the lever removal tool provided
  - 2. Separate the inside support assembly from the inside escutcheon
- B. Remove the battery cover
  - 1. Unscrew the hex screw using the Allen wrench provided. The hex screw does not come completely out.
  - 2. Slide the battery cover off.

The outside assembly stays assembled.













Inside Support Assembly

Support Assembly Screws

**Escutcheon** 

**Battery** Cover

Inside Lever Handle

#### **Determine Hand of the Door**

Face the door from the secure side to determine it's hand.

The secure side is the touchscreen side of an entrance door or the corridor side of a room door. Note: Revolution locks are non-handed; the lever can be flipped around to the desired handing.



**Left Hand Reverse** Hinges on left. Opens outward. For handed locks, specify LHR.



**Left Hand** Hinges on left. Opens inward. For handed locks, specify LH.



**Right Hand** Hinges on right. Opens inward. for handed locks, specify RH.



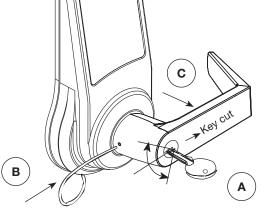
**Right Hand Reverse** Hinges on right. Opens outward. For handed locks, specify RHR. 5



## How to Replace, Re-Key or Install Cylinder

- 1. Remove cylinder handle:
  - A. Insert key and rotate 45 degrees counterclockwise.
  - B. Insert lever retainer tool and push.
  - C. Slide lever off lock.
- 2. Remove the plastic sleeve from the old cylinder.
- 3. Slide new cylinder into sleeve.
- 4. Insert key into cylinder.

Important: Make sure the key cut side of key lines up facing towards the end of the lever. If the key is inserted incorrectly, the lock will reassemble and might appear to properly work; however, when the key is removed, the latchbolt will remain retracted.



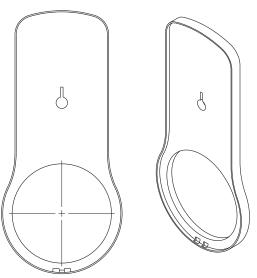
5. Rotate key 45 degrees counterclockwise.

Depress retainer plate, push the handle onto the shank until fully seated. Pull on handle to insure properly seated.

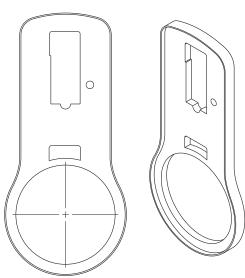
CAUTION: For units shipped prior to March 2012: The cylinders furnished with Revolution lock for use in 1-3/8" doors have a tailpiece that is 1/4" shorter than the standard cylinders that are furnished for 1-3/4" doors. Trying to install a standard cylinder in 1-3/8" will DAMAGE the lock body.

## **Adjust for Door Thickness (If Necessary)**

Lock is provided standard for use on 1-3/4" thick doors. For use on 1-3/8" thick doors, special thin door kit must be used. To order 1-3/8" thin door kit, specify part number V1-KIT1. This kit includes inside and outside escutcheon spacers as well as a 2-3/8" latchbolt. Note: using a 2-3/8" latchbolt results in Grade 2 certification on the lock.



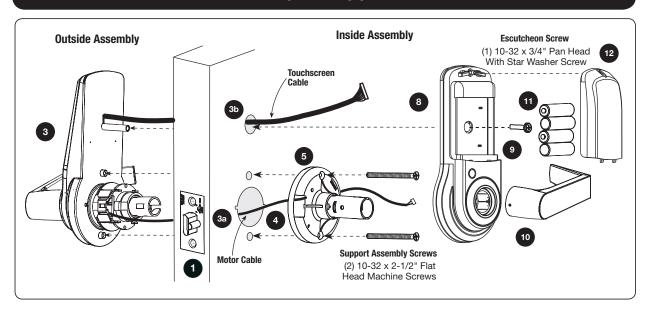
Outside Keypad Escutcheon Gasket

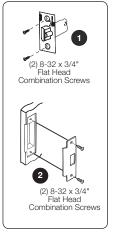


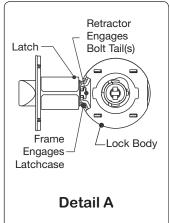
Inside Escutcheon Gasket

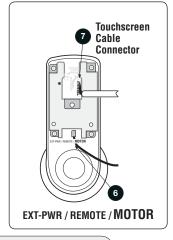


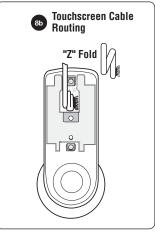
#### **INSTALL LOCK**











#### **Directions**

- Install latchbolt in door. Be sure that bevel edge of bolt faces strike. Attach with two screws supplied.
- 2. Install strike on the door frame.
- Insert outside assembly through door, making sure that the lock body frame hooks latch case and retractor engages bolt tail(s). DO NOT FORCE (See Detail A above). If lock body does not engage latch easily, check door preparation for errors.
  - a. Guide motor cable (red and black wires) through 2-1/8" diameter hole.
  - b. Guide touchscreen cable through 3/4" diameter upper hole.

- 4. Guide motor cable through rectangular hole on inside support assembly.
- Slide inside support assembly over outside assembly, lining up top and bottom screw guides with holes in door. Secure both assemblies with (2) 10-32 x 2-1/2" flat head machine screws. Do not over-tighten.
- Attach motor cable connector to the inside escutcheon PC board header marked "MOTOR."
- 7. Attach the touchscreen cable connector to the inside escutcheon PC board header as illustrated.





#### **Directions, Continued**

8. Slide inside escutcheon over inside support assembly.

#### CAUTION

- a. Position motor cable against inside support assembly. Avoid pinching wires against the steel shank of the assembly.
- b. "Z" fold touchscreen wire cable and lay against the back recessed area of the escutcheon assembly. Position and bend wires to prevent binding when installing the escutcheon over the support assembly.
- 9. Install and secure the 10-32 x 3/4" pan head screw through the center of the battery housing into the barrel nut of the outside assembly.
- 10. Slide on inside lever and push in to attach.
- 11. Insert four (4) AA alkaline batteries. The lock responds, "Welcome to the Arrow Digital World."
- 12. Install battery cover and tighten hex head screw with Allen wrench provided with lock.

#### HARDWARE TROUBLESHOOTING

#### **Test the Operation of the Mechanical Lockset**

Cycle the lock in both the locked and the unlocked positions. If problems are found:

Symptom	Suggested Action
Door is binding	a.Check that door and frame are properly aligned and door is free swinging.
	b. Check hinges: They should not be loose or have excessive wear on knuckles.
Latchbolt will not deadlock	a. Either strike is out of alignment or the gap between the door and jamb is too great. Realign strike or shim strike out towards flat area of latchbolt.
Latchbolt does not retract or extend properly	Latchbolt tail and retractor are not properly positioned:
	a. Remove lockset. Look though 2-1/8" hole and verify latchbolt tail is centered between top and bottom of hole.
	b. Remove latchbolt and insert lockset. Look though latchbolt hole and verify retractor mouth centered in hole. If not, adjust outside rose plate.
	c. If necessary, rebore holes to line up retractor and tail.

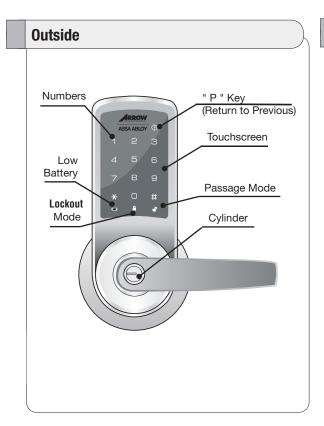


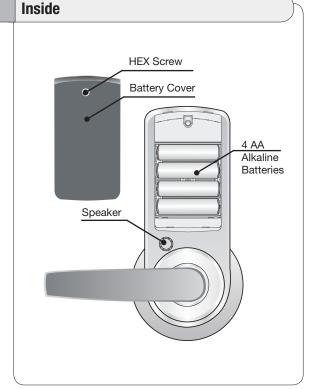


# **PROGRAMMING**

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# PROGRAMMING FEATURES - MENUS - KEYS - DEFINITIONS

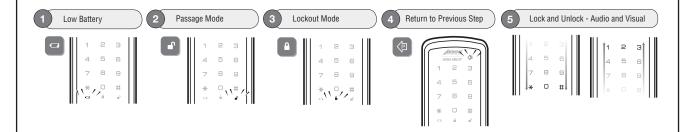






#### **Menu and Icons**

	Touch the screen with palm of hand or fingers to begin and end actions.	MPIN	Enter Personalized Master PIN code (6 digits in length).
1 ~ 0	Click the indicated number.		Enter User PIN. Can be 4-12 digits in length.
*	Press the <b>Star</b> key on the touchscreen to <b>Enter</b> or <b>Accept</b> entry.		User Number (1 - 255).
#	Press the <b>Pound</b> key on the touchscreen to enter <b>Menu</b> mode.		Enter value 1 - 10 (times or seconds).
	Press this key to return to the previous step or menu setting.		Enter value 1 - 255 (seconds).
Repeat operation using settings indicated.			
	Slide the battery cover up and off.		Voice guide.



#### **Definitions**

**All Code Lockout**: This feature is enabled only by the Master code. When enabled, it restricts all user PIN code access. When the unit is in Lockout, the red locked padlock will appear on the screen.

**Low Battery**: When battery power is low, the low battery icon will begin blinking. If battery power is completely lost, the key and cylinder can be used.

**Passage Mode**: Enabling Passage mode allows continuous entry for non-restricted traffic. Passage mode is enabled or disabled through feature programming by the Master code. When the unit is in Passage Mode, the green unlocked padlock will appear on the screen.

**Master Code**: The Master code is personalized by the user upon installation. There is no factory default. The Master code is used for programming User codes and feature settings. The Master code will operate the lock.





#### **Definitions**

**Re-lock Time**: After successful code entry and the unit unlocks, it will automatically re-lock after a default of five (5) seconds. Re-lock time is adjustable from one (1) to ten (10) seconds through feature settings.

**Shut Down Time**: The unit will shut down for a default of one hundred and eighty (180) seconds and not allow operation after the wrong code entry limit has been met. Shut down time is adjustable from one (1) to two hundred and fifty-five (255) seconds through feature settings. When the unit is in Shut Down, the red locked padlock icon will be flashing.

**Silent Mode**: Enabling Silent mode shuts off the code confirmation tone playback for use in quiet areas. Silent mode is enabled or disabled through feature programming by the Master code.

**User Code**: The User code is used for operating the lock.

**User Lockout**: This feature is enabled by the Master code. When enabled, it restricts User PIN code access only for the specified User numbers.

**Wrong Code Entry Limit**: After a default of five (5) unsuccessful attempts at entering a valid PIN code the unit will shut down and not allow operation. Wrong code entry limit is adjustable from one (1) to ten (10) times through feature settings.

#### **OPERATION**

Revolution features single programming mode with a total of 255 PIN codes available for access. All programming is performed through the touchscreen by use of the Master code (which also grants access) and voice guided prompts.

The lock can be programmed for Passage mode, Silent mode, Lockout mode or alternate language settings. Auto re-lock time, wrong code entry limits and shut down times are adjustable can be changed from factory default.

Settings	Master	User
Entrance Authorization	Х	х
Register/Change Master Code	Х	
Register/Change/Delete User Code	Х	
Set All Code Lockout Mode	Х	
Set User Lockout Mode	Х	
Set Passage Mode	Х	
Set Silent Mode	Х	
Set Re-lock Time	Х	
Set Wrong Code Entry Limit	Х	
Set Shut Down Time	Х	
Set Language Setting Mode	Х	

Settings	Factory Defaults
Master Code	User Personalized
Lockout Mode	Disabled
Passage Mode	Disabled
Silent Mode	Disabled
Re-lock Time	5 Seconds
Wrong Code Entry Limit	5 Times
Shut Down Time	180 Seconds
Language	English

#### **Operation of Lock**

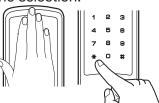
Touch lock with palm of hand or fingers to activate.



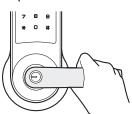
Enter the Master or a User PIN code.



Palm touch the screen or press the \*\frac{\dagger}{\text{the yet to confirm the selection.}}



Turn lever to open door.





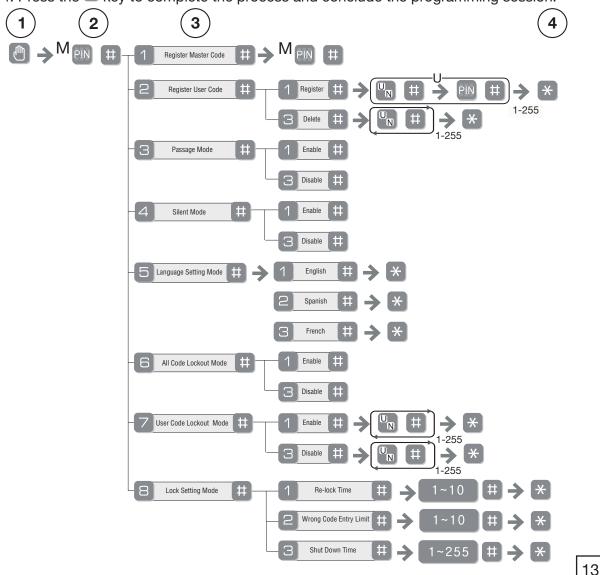
## **Establish the Master Code Before Programming**

- 1. Touch the screen with the palm of your hand or fingers to activate <a> \bigself</a> .
- 2. Press the ## key.
- 3. Enter personalized 6-digit Master PIN code followed by the # key.
- 4. Press ★ key to complete the process and conclude the programming session.

# **Feature Programming**

- 1. Touch the screen with the palm of your hand or fingers to activate <a> \bigself </a> .
- 2. Enter the 6-digit Master PIN code followed by the key.

  Lock Response: "Menu mode, enter number, press the key to continue."
- 3. Enter digit corresponding to the function to be performed followed by the ## key. Follow the verbal commands.
- 4. Press the key to complete the process and conclude the programming session.



## **To Set Up User Codes**

User Codes can only be programmed through Master Code.

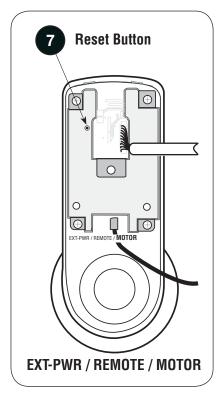
- 1. Touch the screen with the palm of your hand or fingers to activate <a> </a>.
- 2. Enter the 6 digit Master PIN code followed by the # key.

  Lock Response: "Menu mode, enter number, press the # key to continue."
- 3. Enter "2" followed by the # key.
- 4. Enter "1" followed by the # key.
- 5. Enter the User number to be registered (1-255) followed by the # key.
- 6. Enter a 4-12 digit PIN code for the User number followed by the # key. Press # to add more users.
- 7. Press the 🔻 key to complete the process and conclude the programming session.

#### **Returning the Lock to Factory Defaults**

The outside assembly remains assembled.

- 1. Remove inside lever with the lever removal tool.
- 2. Remove battery cover using Allen wrench provided with lock.
- 3. Remove four (4) AA alkaline batteries.
- 4. Remove the 10-32 x 3/4" pan head screw from the center of the battery housing into the barrel nut of the outside assembly.
- 5. Remove inside escutcheon.
- 6. Reinstall batteries four (4) AA alkaline batteries.
- 7. On the back of the PC board, push and hold the Reset Button with the lever removal tool for 3 seconds.
- 8. Temporarily remove one (1) AA battery (still holding the reset button in).
- 9. Reinstall the AA battery (still holding the reset button in).
- 10. Release reset button and wait 3 seconds.
- 11. The speaker will announce "Welcome to the Arrow Digital World".



To reassemble the lock, refer to steps 8 through 12 on page 8.

All programming should be returned to factory defaults.





# PROGRAMMING TROUBLESHOOTING

Symptom	Suggested Action
Lock does not respond – door is open and accessible.	<ul> <li>The touchscreen will become active when pressed with the palm or fingers in at least 3 areas simultaneously.</li> <li>Use a larger area of the palm or fingers and verify contact with at least 3 areas If touchscreen numbers are visible, check to see if they respond when pressed.</li> <li>Check batteries are installed and oriented correctly in the battery case.</li> <li>Check batteries are in good condition; replace batteries if discharged.</li> <li>Check to see if touchscreen cable is properly connected and not pinched (page 7)</li> </ul>
Lock does not respond – door is locked and inaccessible.	<ul> <li>Batteries may be completely discharged.</li> <li>Use mechanical key to gain entry and replace batteries.</li> </ul>
The unit is on for a while, and then shows no reaction. Lights dim.	The batteries do not have enough power. Replace the batteries.
Unit chimes to indicate code acceptance, but the door will not open.	<ul> <li>Check to see if there is another locking device on the door (i.e. deadbolt).</li> <li>Check the door gaps for any foreign objects between door and frame.</li> <li>Check that the motor cable is firmly connected to the PC board header marked "MOTOR" (page 7).</li> </ul>
Unit operates to allow access, but will not automatically re-lock.	<ul> <li>Check to see if Passage Mode is enabled.</li> <li>If the Passage Mode icon on the touchscreen and the status indicator on the interior escutcheon flicker for several seconds, it is set at Passage Mode page 10).</li> <li>Disable Passage Mode to lock the door.</li> <li>If low battery indicator is lit (page 10), change batteries.</li> </ul>
PIN codes will not register.	<ul> <li>PIN codes must consist of 4 to 12 digits to register.</li> <li>The same PIN code cannot be used for multiple users.</li> <li>Registration/management of PIN codes is set at the authority of the Master.</li> <li>Contact the Master.</li> <li>The Master PIN code does unlock the door.</li> <li>User codes must be entered within 20 seconds (while the touchscreen is active) or the process will have to be restarted.</li> <li>The star (*) or pound (#) can not be used as part of the PIN code.</li> </ul>
Upon entering a PIN code and pressing the star (*) key, the unit displays and "invalid code" error or the lock times out without responding.	<ul> <li>Either All Code or User Lockout Mode is enabled (pages 13).</li> <li>Only the Master can enable Lockout Mode.</li> <li>Contact the Master user.</li> </ul>
Upon entering a PIN code and pressing the (*) key, the red padlock icon appears and there are different tones.	<ul> <li>Check to see if you are set at Lockout Mode.</li> <li>Setting/managing Lockout Mode is up to Master. Contact the Master.</li> </ul>
The unit operates, but it makes no sound.	Check to see if Silent Mode is enabled (page 13).
The unit responds "Low Battery"	This is the voice alarm alerting that it is time to replace the batteries. Replace all four (4) batteries with new AA Alkaline batteries.
Upon entering a PIN code and pressing the star (*) key, the unit responds "Wrong digit numbers."	The digits entered were incorrect or incomplete. Re-enter the code.





Door Number:			Management  Door Number:		
	User Name	PIN Number		User Name	PIN Number
User 1			User 41		
User 2			User 42		
User 3			User 43		
User 4			User 44		
User 5			User 45		
User 6			User 46		
User 7			User 47		
User 8			User 48		
User 9			User 49		
User 10			User 50		
User 11			User 51		
User 12			User 52		
User 13			User 53		
User 14			User 54		
User 15			User 55		
User 16			User 56		
User 17			User 57		
User 18			User 58		
User 19			User 59		
User 20			User 60		
User 21			User 61		
User 22			User 62		
User 23			User 63		
User 24			User 64		
User 25			User 65		
User 26			User 66		
User 27			User 67		
User 28			User 68		
User 29			User 69		
User 30			User 70		
User 31			User 71		
User 32			User 72		
User 33			User 73		
User 34			User 74		
User 35			User 75		
User 36			User 76		
User 37			User 77		
User 38			User 78		
User 39			User 79		
User 40			User 80		





Door Number:			Management  Door Number:		
Door Marribor.	User Name	PIN Number	Door Hallibot.	User Name	PIN Number
User 81			User 121		
User 82			User 122		
User 83			User 123		
User 84			User 124		
			╢		
User 85			User 125		
User 86			User 126		
User 87			User 127		
User 88			User 128		
User 89			User 129		
User 90			User 130		
User 91			User 131		
User 92			User 132		
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User 109			User 149		
User 110			User 150		
User 111			User 151		
User 112			User 152		
User 113			User 153		
User 114			User 154		
User 115			User 155		
User 116			User 156		
User 117			User 157		
User 118			User 158		
User 119			User 159		
User 120			User 160		





Door Number:			Management  Door Number:		
2001 1401/11001.	User Name	PIN Number	Door Humbon	User Name	PIN Number
User 161			User 201	<u> </u>	
User 162			User 202		
User 163			User 203		
User 164			User 204		
User 165			User 205		
User 166			User 206		
User 167			User 207		
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User 179			User 219		
User 180			User 220		
User 181			User 221		
User 182			User 222		
User 183			User 223		
User 184			User 224		
User 185			User 225		
User 186			User 226		
User 187			User 227		
User 188			User 228		
User 189			User 229		
User 190			User 230		
User 191			User 231		
User 192			User 232		
User 193			User 233		
User 194			User 234		
User 195			User 235		
User 196			User 236		
User 197			User 237		
User 198			User 238		
User 199			User 239		
User 200			User 240		





	PIN Code Management				
Door Number:	Door Number:				
	User Name	PIN Number			
User 241					
User 242					
User 243					
User 244					
User 245					
User 246					
User 247					
User 248					
User 249					
User 250					
User 251					
User 252					
User 253					
User 254					
User 255					





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