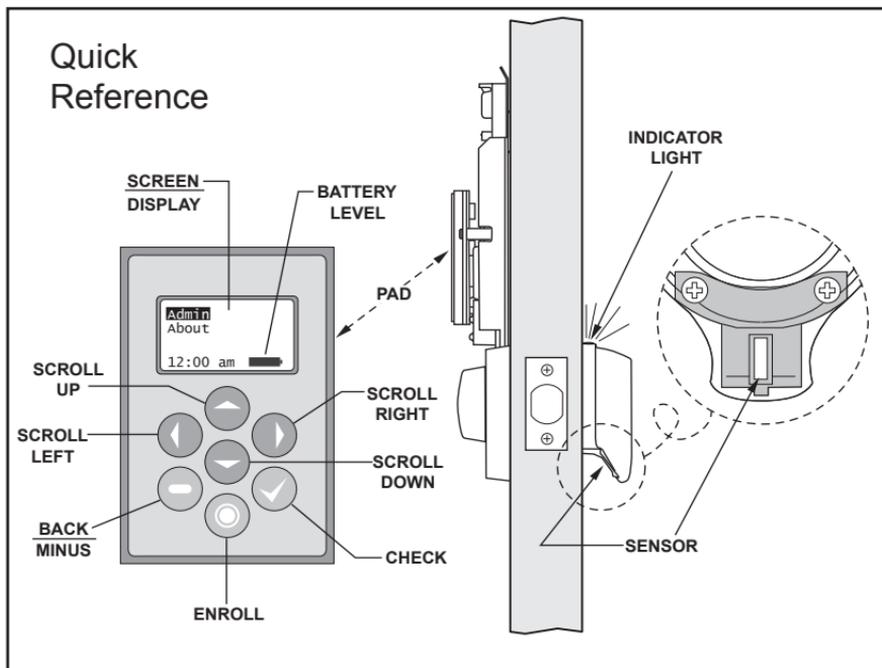


SmartScan User/Programming Manual



Glossary

Admin: Administrator. A user that is authorized to manage system functions. These functions include: Enroll, Delete, Rename users, Enable/Disable access and assign/revoke admin privileges.

Enrollment: The process in which fingerprint data is collected, converted to templates and stored in memory.

Authentication: The process in which fingerprint data is compared to templates in memory.

User: An individual authorized to operate the lock.

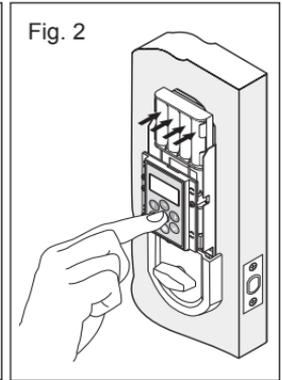
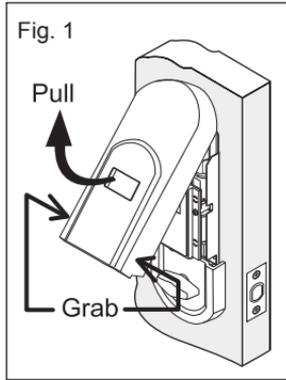
Biometric: Method of authenticating the identity of a person, based on physiological and behavioral characteristics.

For assistance or warranty information call the following:

1-800-327-LOCK for Kwikset Customers in the USA. www.kwikset.com

1. Getting Started.

- Lift the plastic cover off the interior side of the SmartScan (grab the sides just under the display and pull out and up). (See figure 1.)
- Install 4 new AA Alkaline batteries** (not included in package). Battery positions shown on battery case. (See figure 2.)
- Press any key to activate screen.
- Refer to figure 3 for opening menu.

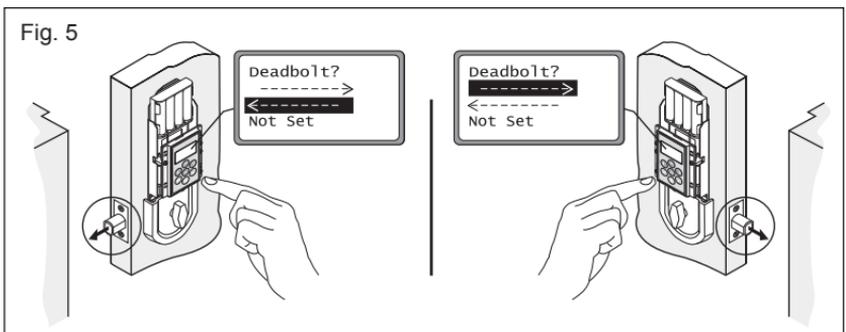
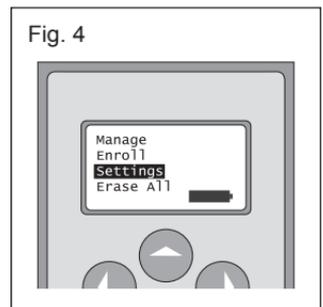
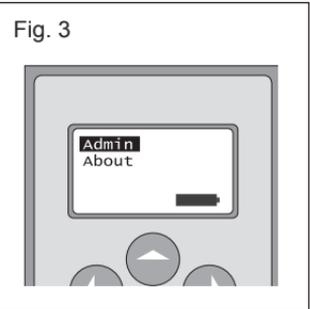


Alkaline Battery **WARNING**

Do not dispose of in fire, recharge, put in backwards, disassemble, mix with used or other battery types. May explode or leak and cause personal injury

2. Set Deadbolt Direction

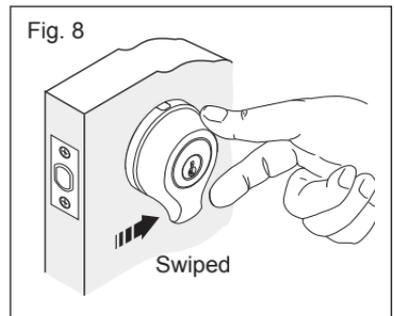
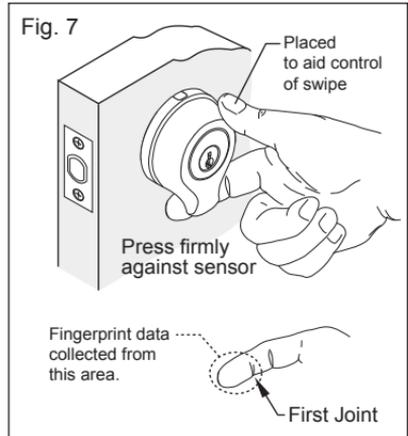
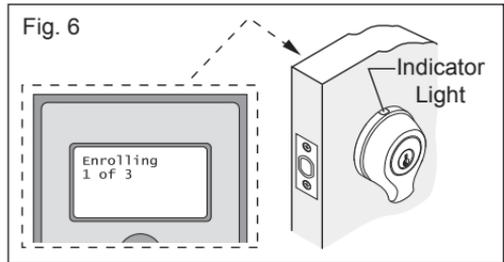
- From the opening menu (figure 3), highlight Administrator (**Admin**) and press check (✓), see figure 4.
- Select **Settings** and press check (✓).
- Select **Deadbolt** and press check (✓).
- Scroll to arrow pointing in the direction of your deadbolt (←or →), then press check (✓); your deadbolt direction is now set. (See Figure 5.)
- Press the back/minus (-) button twice to return to the opening menu.



3. To Enroll the First User

- *The enrollment process requires 3 clearly captured finger scans. If during the process, the unit was unable to capture 3 clear scans, you must start the process over again.*
- *Direction of finger swipe will depend on your installation. Even though the illustrations shown demonstrate a finger swipe from left to right, the SmartScan is designed to accept a finger swipe from either direction (left to right or right to left).*
- *With the exception of the thumb, the system is designed to accommodate any finger for lock access.*

- Press any key, to activate display.
- Press the Enroll button (⊙) then press the (✓) button. The indicator light on the exterior will turn green and the screen will display "Enrolling 1 of 3" (see figures 6).
- Place the first joint of your index finger **against** the sensor, (refer to "Quick Reference" illustration on page 1 for sensor location). (See figure 7 for finger placement.)
- When light turns orange begin swiping across the sensor - until you have cleared the sensor, (see figure 8).
- The light turns green and the screen displays "Enrolling 2 of 3" this prompts you to begin the second swipe by repeating steps c & d.
- Light turns green and the screen displays "Enrolling 3 of 3". Proceed to the third swipe, again repeating steps c & d.
- After 3 successful swipes the light will remain green and the screen will display "Enrolled user 1". **Once enrolled, user 1 is automatically set to Admin privileges.**



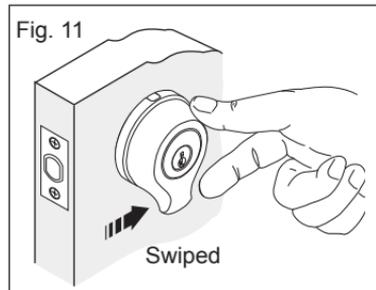
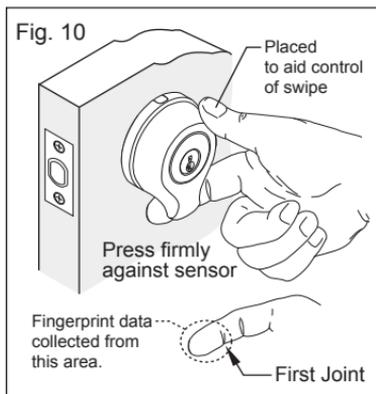
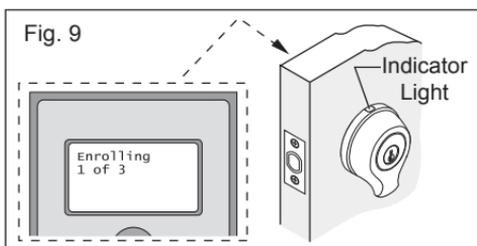
In the event that the LIGHT TURNS RED and the screen indicates "Sensor Error enroll again", repeat steps a through f.

- h. Once enrollment is successful, we recommend you enroll a different finger so lock access is not lost as a result of an injury. If possible enroll a finger from the other hand. See section 4 for how to “enroll subsequent users”.
- i. It is recommended at this time, to test lock operation, see section 5.
- j. Now is also the appropriate time to “RENAME” a user; see section 6.

4. To enroll subsequent users

- **The enrollment process requires 3 clearly captured finger scans. If during the process, the unit was unable to capture 3 clear scans, you must start the process over again.**
- **Direction of finger swipe will depend on your installation. Even though the illustrations shown demonstrate a finger swipe from left to right, the SmartScan is designed to accept a finger swipe from either direction (left to right or right to left).**
- **With the exception of the thumb, the system is designed to accommodate any finger for lock access.**

- a. Press any key, to activate display.
- b. Press the Enroll button (⊙).
- c. The administrator (first user to enroll or user assigned with Admin privileges) swipes his/her finger to verify.
- d. Once authenticated, the indicator light on the exterior will turn green and the screen will display “Enrolling 1 of 3” (see figures 9).
- e. Place the first joint of your index finger **against** the sensor, (refer to “Quick Reference” illustration on page 1 for sensor location). (See figure 10 for finger placement.)
- f. When light turns orange begin swiping across the sensor - until you have cleared the sensor, see figure 11.
- g. The light turns green and the screen displays “Enrolling 2 of 3” this prompts you to begin the second swipe by repeating steps e & f.
- h. Light turns green and the screen displays “Enrolling 3 of 3”. Proceed to the third swipe, again repeating steps e & f.



- i. After 3 successful swipes the light will remain green and the screen will display “Enrolled user 2”.
- j. Once enrollment is successful, we recommend you enroll a different finger so lock access is not lost as a result of an injury. If possible enroll a finger from the other hand.
- k. Continue with steps e through h for all subsequent users.
 - l. It is recommended at this time, to test lock operation, see section 5.
- m. Subsequent users are not assigned Admin privileges automatically. See section 7 on how to “Make Admin”.
- n. Now is also the appropriate time to “RENAME” a user; see section 6.

5. Operating the lock

a. To unlock your door:

Place the first joint of an enrolled finger under the deadbolt, wait for the green or orange light to come on and proceed to swipe your finger the same way you did during the enroll process. See figure 12.

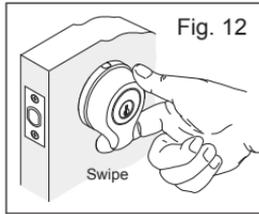


Fig. 12

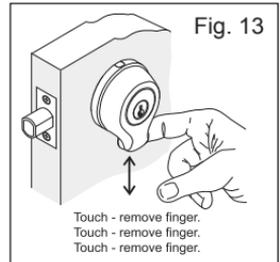


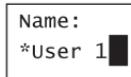
Fig. 13

- ### b. To lock your door:
- Simply tap the sensor three (3) times with no more than 1 second in-between taps (make sure to remove your finger at least ½ inches from the sensor in-between taps). See figure 13.

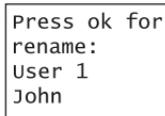
6. Rename a User

- a. The system assigns “user #” to store newly enrolled users. To rename “User 1” to “John”: From the opening menu, proceed as follows - using (√) to select **and following the systems prompts.**

Admin → Manage → User 1 → Rename →

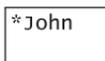


- b. Use (◀) to highlight the letter “U”.
- c. Scroll (▼) through to the letter “J”.
- d. Press (▶).
- e. Screen reads: “J█”.
- f. Scroll (▲) to letter “o”
- g. Press (▶).
- h. Screen reads “Jo█”.
- i. Repeat for remaining letters.
- j. Press (√) when all required characters have been entered.
- k. The screen displays: →



- l. Press (√).

- m. The screen displays: → *John



- n. Press (-) to return to “Admin” menu.
- o. Repeat for other users.

7. To Make Admin or Revoke Admin

To give Administrative privileges to any user, perform the following:

- Select **Admin** and press check (✓).
- At system prompt one of the current Administrators swipes to authenticate.
- Select **Manage** and press check (✓).
- From the displayed list, select the user that you want to make an administrator. Note: Users with an (*) preceding their names are administrators (see figure 14).
- Press check (✓).
- Select **“Make Admin”** or **“Revoke Admin”** as appropriate.
- Press check (✓).
- Press (-) twice to return to Opening Menu.

Fig. 14



*John
Linda

Path in short:

Admin → **Manage** → **User #** → **Make Admin**
→ **Revoke Admin**

8. To Schedule or Limit a user's access

Note: In order for the “Time Allowed” function to operate predictably, the clock must be set to the correct dated time. See section 12 to set clock.

- Select **Admin** and press check (✓).
- At system prompt one of the current Administrators swipes to authenticate.
- Select **Manage** and press check (✓).
- From the displayed list, select the user that you want to schedule access on certain days and times. Press check (✓).
- Highlight **“Allowed Time”** and press check (✓), the screen will display
- Select **“By Time”** and press check (✓). This will access the scheduling display window.
- Use (◀) & (▶) to **scroll across** days of the week.



Always
Never
By Time



Rename
Make Admin/Revoke Admin
Allowed Time
Delete user



S	M	T	W	T	F	S
✓	✓	✓	✓	✓	✓	✓
12:00a			12:00a			
Default				Ok		

- Use (▲) or (▼) to **select/deselect** day or days (a check mark under the day indicates that it is selected).
- Use (◀) & (▶) to move the cursor to the hour line.
- Using the (▲) & (▼) set desired “start” & stop times.
- Highlight **Ok** and press check (✓). The screen will display “Saving” then it will display
- The % preceding a user's name indicates limited access recurring weekly.
- Use the (-) button to back out of menu.



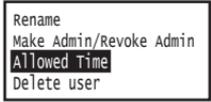
*User 1
%User 2

Path in short:

Admin → **Manage** → **“User Name”** → **Allowed Time** → **By Time**

9. To Enable/Disable a user

(Default is **Always** = meaning that when a user is enrolled he is enabled 100% of the time.)

- Select **Admin** and press check (✓).
- At system prompt one of the current Administrators swipes to authenticate.
- Select **Manage** and press check (✓).
- From the displayed list, select the user that you want to Enable or Disable. Press check (✓).
- Highlight **"Allowed Time"** ----->  and press check (✓), the screen will display -----> 
- Select **"Always"** to enable or **"Never"** to disable and press check (✓).
- The screen will display "Saving".
- The "-" preceding a user's name indicates that user's access has been disabled. 
- Use the (-) button to back out of menu.

Path in short:

Admin → Manage → "User to enable or disable" → Allowed Time → → **Always** to enable user
→ **Never** to disable user

10. To Permanently Delete a user

Please note: The Delete function, completely removes a user from memory; data is unrecoverable and no undo operation is available.

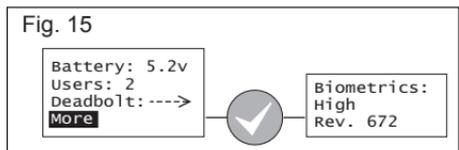
- Select **Admin** and press check (✓).
- At system prompt one of the current Administrators swipes to authenticate.
- Select **Manage** and press check (✓).
- From the displayed list, select the user that you want to delete. Press check (✓). The screen will display ----->
- Highlight **"Delete User"** and press check (✓), the screen will display "Removing" and return to user list. 
- Use the (-) button to back out of menus.

Path in short:

Admin → Manage → "User to delete" → Delete User

11. SmartScan settings

- To view current settings, Select **About** on the main menu press the check (✓). For sample screen shot, see Figure 15.



Note: This is for information only and no changes are available from this menu.

12. To change Settings - Clock, Deadbolt, Locktime or Biometrics

- a. **Clock:** The clock is used in conjunction with the “schedule” option.

Note: If time between battery replacement is longer than 2 minutes, the clock may have to be reset.

From the opening menu:

Admin → **Settings** → **Clock** → the screen will display ↑

Use (◀) and (▶) to navigate through the display.

Use (▲) and (▼) to change day and time.

Press (✓) to accept & save clock settings -screen displays ↑

Press (-) to exit menus as desired.

- b. **Deadbolt:** Sets direction of deadbolt (no default, direction must be set).

From the opening menu:

Admin → **Settings** → **Deadbolt** → the screen will display ↑

Use (▲) and (▼) to select.

Press (✓) to accept.

Press (-) to exit deadbolt menu.

- c. **Locktime:** Sets motor activation time (Default = normal). “Medium” and “High” settings provide a temporary solution for binding or warped doors until door/jamb repair is made. *Medium and High settings impose extra strain on the system and will reduce battery life.*

From the opening menu:

Admin → **Settings** → **Locktime** → the screen will display ↑

- d. **Biometrics:** Sets system sensitivity/selectivity. Default is “High” which provides optimum system sensitivity and security. “Normal” setting allows easier access for users (especially children) that have difficulty in obtaining a consistent swipe. Change back to “High” when users become familiar with the swiping process.

From the opening menu:

Admin → **Settings** → **Biometrics** → the screen will display ↑

Quick Path Guide

OPERATION	REQUIRED KEYSTROKES
ABOUT	OPENING MENU
ADMIN	OPENING MENU
BIOMETRICS	ADMIN → SETTINGS → BIOMETRICS
CLOCK	ADMIN → SETTINGS → CLOCK
DEADBOLT	ADMIN → SETTINGS → DEADBOLT
DELETE	ADMIN → MANAGE → “USER TO DELETE” → DELETE USER
DISABLE	ADMIN → MANAGE → “USER TO DISABLE” → ALLOWED TIME → NEVER
ENABLE	ADMIN → MANAGE → “-USER TO ENABLE” → ALLOWED TIME → ALWAYS
ENROLL	ADMIN → ENROLL OR PRESS ENROLL BUTTON
ERASE ALL	ADMIN → ERASE ALL → YES
LOCKTIME	ADMIN → SETTINGS → LOCKTIME
MAKE ADMIN	ADMIN → MANAGE → “USER TO MAKE ADMIN” → MAKE ADMIN
MANAGE	ADMIN → MANAGE
RENAME	ADMIN → MANAGE → “ USER TO RENAME ” → RENAME
REVOKE ADMIN	ADMIN → MANAGE → “ *USER TO REVOKE ” → REVOKE ADMIN
SCHEDULE/RESCHEDULE	ADMIN → MANAGE → “USER TO SCHEDULE” → ALLOWED TIME → BY TIME
SETTINGS	ADMIN → SETTINGS

SmartScan Troubleshooting Guide

Problem	Check/Remedy
Display does not come on.	Verify that the Batteries are good and that they are installed correctly
The system does not wake up (No green or red light).	Press a key on the keypad: If the LCD does not come on, check the batteries. If the LCD comes on, check the cable connection between the Deadbolt and the Main unit.
The green and orange lights come on, but then the red light flickers and the door does not unlock.	<p>If you have access to the LCD, look for system messages. If you have no access to the LCD, try swiping at a slower rate with constant speed and pressure, making sure to wait until green or orange light comes on before beginning your finger swipe. Try swiping a different finger that you have enrolled.</p> <p>Try to improve swiping technique. Enroll same finger additional times. Change "Biometrics" setting to Normal.</p>
Some users have trouble operating the lock.	Display the users list (Admin→ Manage). A user preceded by a % will have limited access. To change user status, go to "Allowed Time" under "Manage" menu.
My batteries are wearing out too quickly.	Avoid "waking up" the system unnecessarily. Battery life estimate is based on 10-15 accesses a day, including times that the LCD is on, even without driving the bolt. Also check "Locktime" under "Settings" menu; change to "Normal".
The motor stays on for too long.	Check "Locktime" under "Settings" menu; change to "Normal".
Sometimes I hear a beeping sound when I operate the lock.	This is a "Low Battery" warning; system batteries are low and need to be replaced.
My lock works backwards: It locks when I swipe and unlocks when I tap three times.	Check Deadbolt direction under "Settings". Change deadbolt arrow to match your installation.
I replaced the batteries and now my clock is all wrong.	To guarantee clock integrity, do not leave batteries out of the system longer than two (2) minutes.
When I operate the lock the motor sounds strained and the bolt only goes halfway.	This is probably due to a warped door. As a temporary "fix" ONLY, try a different "Locktime" setting. Please note that locktime settings other than "Normal" increase system strain and decrease battery life; they are not recommended to be used in lieu of door or jamb repair.

Frequently Asked Questions (FAQs)

- Q.** Why can't I enroll without setting the Deadbolt direction in the system?
- A.** In order for the system to operate predictably, it needs to "know" which direction to drive the bolt when Lock or Unlock commands are issued. Before the first user is allowed to enroll, the Dead Bolt direction needs to be set.
- Q.** Do I have to set the "Deadbolt direction" every time I enroll a user?
- A.** No, once the dead bolt direction is set, it is stored in non-volatile memory and it does not have to be reset even when power is removed. Bolt direction may be changed, as applicable, if the lock is installed on a different door.
- Q.** Can anybody enroll himself and have access to the system?
- A.** No. Only an Admin is authorized to enroll new users.
- Q.** What is an Admin?
- A.** An Administrator is a user that is authorized to Manage system functions such as Enroll, Delete or Rename other users; he/she is also authorized to assign administrative privileges to other users.
- Q.** How do I become an Admin:
- A.** The first user automatically becomes an Administrator; in turn he may assign admin privileges to other users.
- Q.** Does the First Admin have more privileges than subsequent ones?
- A.** No, the system treats all Admin the same.
- Q.** Is there a limit to the number of Administrators that I can have?
- A.** No; you can have as many Administrators as users. To prevent system tampering and unauthorized use however, it is recommended that you limit the number of Admin to 2 or 3.
- Q.** How long will SmartScan last on a single set of batteries?
- A.** Under normal use (10-15 accesses per day) SmartScan should operate for a year on a single set of alkaline batteries.
- Q.** How can I conserve battery life?
- A.** The system goes to Low-power "sleep" mode after 30 seconds of inactivity; in this mode minimum power is consumed. Whenever the system is active (display on or driving the deadbolt) it consumes maximum power. Avoiding "waking up" the system unnecessarily will extend battery life.
- Q.** How long can the system stay in "sleep" mode without losing its setting?
- A.** In sleep mode SmartScan can run for several years on a single set of batteries. It is impossible for SmartScan to "forget" its settings even if the batteries are removed.
- Q.** How do I know when to replace the batteries?
- A.** **1.** Look at the battery icon in the opening menu. Amount of shading corresponds to remaining battery charge. **2.** Check battery voltage under "Settings" Replace batteries when indicated voltage is 4.3V or less. **3.** When batteries need replacement, the system emits a warning beeping sound after locking or unlocking the door. **4.** When accessing the bolt, the motor will sound "straining" under low battery condition.
- Q.** Do I have to reconfigure the lock when I replace batteries?
- A.** No; system configuration and user information & data, are saved in non volatile Flash memory (similar to the one used in jump-drives and MP3 players;) data may be stored indefinitely without the need of batteries. One exception to this rule however, is the clock: It is recommended that battery replacement is accomplished within 2 minutes, otherwise Day and Time may need to be reset. No other settings are affected.
- Q.** My child has difficulty operating the lock (fail to match). What can I do?
- A.** Young children may have difficulty authenticating, probably due to inconsistent finger swipes (speed, position and angle.) To improve success rate try one or both of the following: **1.** Change "Biometrics" from "High" to "Normal" to increase system sensitivity. Switch back to "High" when children become familiar with the lock. **2.** Enroll the same finger of the child more than once. After a short period of time, practice will eventually eliminate the need for multiple enrollments.

Frequently Asked Questions (FAQs) continued...

- Q.** Since the SmartScan is basically a computer, can it "lock-up" like my PC sometimes does?
- A.** Many times what it is perceived as a "lock-up" is just an attempt by the PC to access a non-responding peripheral; given enough time (sometimes minutes) a PC will "time-out" and return to accept commands. Other times the PC may try to execute a barrage of instructions that an impatient user may have issued. Being a general purpose computer, the PC has long time-outs and from the user's perspective (in both scenarios above) the computer will appear to be "locked-up." Since SmartScan is a dedicated special purpose computer, the designers have been able to build in several safeguards with short time-outs; the possibility of a "lock up" has been minimized. In the event however, that SmartScan is busy executing a series of commands (keypad or swipe) and needs to be stopped, all is required is to remove one battery, wait for 60 seconds and reinsert. SmartScan returns to the opening menu. Please note that the operation in process just before battery removal, will have to be repeated.
- Q.** Why is there a delay from when I touch the sensor and the unit LED activating?
- A.** In order to conserve batteries, the system is put in a low power (sleep) mode after 30 seconds of inactivity. When Keypad or Finger print activity is detected, the system receives a "wake-up" command; it takes approximately 0.2 seconds for the electronics to come up and ready to collect data.
- Q.** Why does the unit not read my finger the first time I swipe my finger.
- A.** It is important to wait for the system to wake up or activate before swiping your finger. If you begin swiping or moving your finger before the system is awake the full fingerprint is not captured for comparison.
- Q.** Can I use my finger on my left hand or right hand? Does the direction of the swipe make a difference?
- A.** The system is designed to capture data from either direction; as long as the direction and finger of the swipe matches the direction and the finger of enrollment, the lock will function properly.
- Q.** What do the LED colors indicate?
- A.** Green: System is awake and ready to accept commands.
Orange: The system is capturing fingerprint data.
Red: Authentication (comparing captured data to templates in memory) failed.
- Q.** If my finger gets dirty will the unit still work?
- A.** The SmartScan finger print sensor uses RF techniques to collect data from below the skin therefore, its "reading" ability is not affected by dirt. It is advisable however, to wipe dirt and sand off, prior to swiping, to avoid scratching the sensor's protective glass surface.
- Q.** If I cut my finger will the unit still work?
- A.** The system reads sub-dermal (below the skin) fingerprint data therefore is tolerant to small cuts and skin blemishes. It will not however, read through a bandage.
- Q.** If I go swimming for a long period of time will my finger still work?
- A.** Staying in water for prolonged periods may distort fingerprint data, resulting in failure to authenticate. A few minutes of "drying" time will be sufficient to remedy the problem.
- Q.** I tap my finger and I hear the motor operate but the lock does not lock.
- A.** Check the alignment between the bolt and the strike to make sure the bolt can move into the strike without any interference.
- Q.** What is the purpose of the Locktime adjustment?
- A.** This is a temporary electronic "fix" for a misaligned or warped door. The default setting is "Normal" which provides optimum timing for most applications. The "Medium" and "High" settings may be used to temporarily overcome alignment problems until a permanent repair is made Please note: Medium and High Locktime modes impose extra strain on the system and shorten battery life; these modes are offered as a convenience only and they are not to be used as a substitute for a door or a door-jamb repair.
- Q.** What can I do to help the unit wake up easier?
- A.** Grasp the lower side of the deadbolt with one finger wrapped around the fingerprint sensor and the thumb on the top of the deadbolt. Hold for 1-2 seconds, then remove hand from deadbolt.
- Q.** My unit won't wake up what should I do?
- A.** Remove your hand from the deadbolt for about 30 seconds and try again.
- Q.** Should I carry a key as a back-up?
- A.** An alternate way to access the premises is advisable. A back-up key is recommended.

Frequently Asked Questions (FAQs) continued....

Q. What is the purpose of having the thumb on the deadbolt while finger swiping?

A. The thumb is used as a pivot point to control swiping speed and angle.

Q. Does the lock work if the finger is scanned in a vertical position?

A. No; data is collected by swiping Left to Right or Right to Left only.

Q. Can someone "steal" my fingerprint and use it in "Identity theft" scam?

A. No. Your fingerprint is NOT stored in the system: The data collected during swiping is used to extract a mathematical expression of the features that make your print unique. This mathematical representation is what is stored in memory. This method is both economical (small memory requirements) and secure (unable to duplicate the actual fingerprint).

This product is covered by one or more of the following patents or patents pending:

4844522 5123683 5317889 5335525 53359505441318 5452928 5482335 5490700 54960825513509 5513510
5529351 5540070 55709125662365 5761937 5810402 5857365 60587466128933 6151934 6398465 6401932
64123196443504 6532629 6536812 6568727 65984406622537 6662606 6695365 6702340 67456026828519
6860131 6860529 6862909 6871520 6880871 6948748

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