MedVault®

Retrofit Kit PCBA
Installation Guide

Warning

Treat this manual as a *confidential document.*
Limit access to authorized personnel.

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Important Information for MedVault WiFi *Units*

FCC NOTICE

The RF module contained within this device complies with the rules set forth in Part 15 by the Federal Communications Commission. Operation is subject to the following conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.
3. An approved antenna must be directly coupled to the module's RP-SMA connector.
4. The module must not be modified in any way. Coupling of external circuitry must not bypass the provided connectors.
5. The antenna used for this transceiver must not be co-located or operated in conjunction with any other antenna or transmitter.
Any changes or modifications could void the user's authority to operate the equipment.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

This Device Contains: FCC ID: R68MTCHDRCT, IC ID: 3867A-MTCHDRCT or
FCC ID: YOPGS2100MIE, IC ID: 9154A-GS2100MIE. Refer to product label to determine which module is installed.

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MedVault 2.5 Board Installation Instructions

The following instructions are for the following kits.

91158	RETROFIT KIT, PCBA, MAIN BOARD, MedVault® 2.5 Large
91160	RETROFIT KIT, PCBA, MAIN BOARD, MedVault® 2.5 Mini

The difference between the two kits is the length of the coax cable on the circuit board and the serial numbers on the label. Make sure that the retrofit kit matches the MedVault in which the board will be installed.

The following document shows the steps to remove the MedVault 2.0 board and replace with the new 2.5 MedVault Board. Removing the MedVault 2.0 board and installing the new Knox MedVault 2.5 circuit board is a simple process that should take approximately ten minutes to complete. The MedVault 2.5 Circuit board will be required for using KnoxConnect cloud-based software.

The Knox MedVault 2.5 circuit board includes the following updates:

- Automatic PIN updates and audit history upload
- Management and reporting through KnoxConnect cloud-based software
- Improved reliability
- New circuit board design and resilient firmware
- Optional use of Knox eLock and Knox eKey as an additional access method or override

The tools and materials needed for the installation includes the following items:

- #2 Phillips Screwdriver for 10/32 and 6/32 screws
- Flat head 3/32 screwdriver
- Fine point wire cutters
- Knox MedVault Tech key
- Knox MedVault 2.5 Retrofit kit which contains the new circuit board and all additional materials needed to remove and replace the board.

MedVault Retrofit Kit 91158 and 91160 Include the following:

Quantity	Description
1	Cable Tie
1	PCA Main Board MedVault 2.5, with battery, coax cable
1	Label, Alum MedVault 2.5 Serialized
2	Kapton Tape 0.25"X1"
1	Screw 6-32 X 0.25"
1	ESD Wrist strap
1	Retrofit MedVault 2.5 PCBA Installation instructions

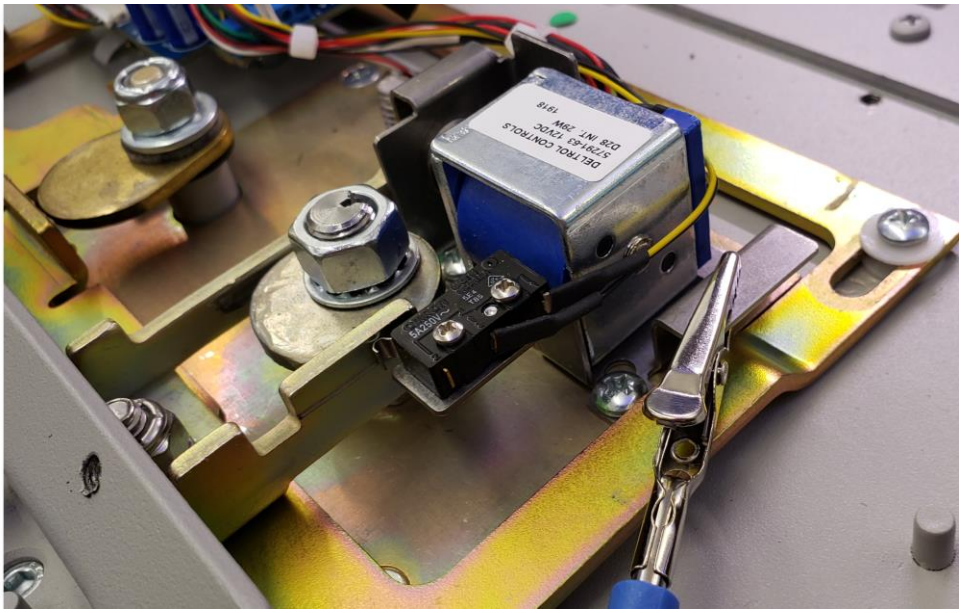
Safety precautions:

Always disconnect power to the MedVault when removing and installing circuit boards. Knox also strongly recommends the installer wear safety glasses. Always use a grounding strap (included in kit) while installing the circuit board.

How to use grounding straps
ESD wrist straps is an antistatic device used to safely ground a person working on sensitive electronic equipment to prevent the build-up of static electricity on their body, which can result in electrostatic discharge (ESD). ESD can damage the MedVault 2.5 board and cause the board not to work properly.

To use the strap properly:

- Attach strap to wrist firmly. Make sure it is in contact with your skin.
- Attach grounding clip to solenoid bracket as shown. Note that the back cover will need to be removed before clip is attached.



Note: Serialized Labels, Do Not Discard

The retrofit kits contain a serialized circuit board with matching label. Once the new circuit board is installed, the serial number of the MedVault will change. Remove old label and replace with new adhesive label which contains the new serial number on the MedVault.

***Important:* It is important to track the serial number with the correct circuit board, as the circuit board has been pre-programmed to match the unit serial number on the label. Picture of the label is below.**

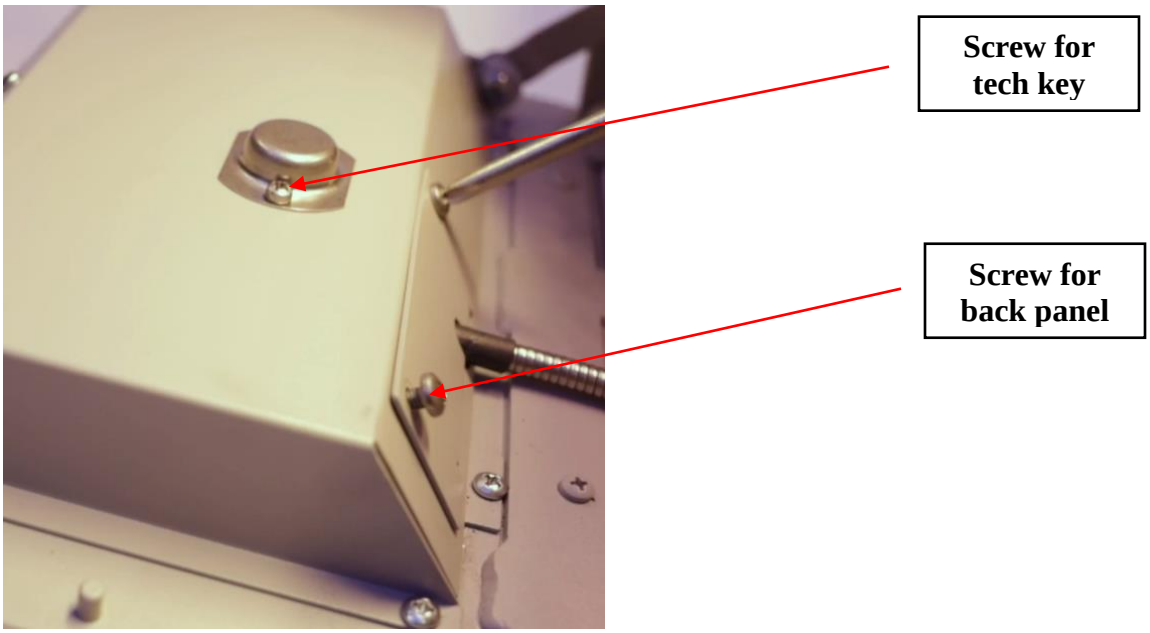
Circuit Board Removal

Step #1 is Opening the MedVault

- The first step is to ensure the MedVault door is open

Step #2 Disconnect power and coax connection from back panel

- Remove the 2 screws from the service panel
- Disconnect the power first and then coax connection for the antenna



Step #3 Remove the tech key cover

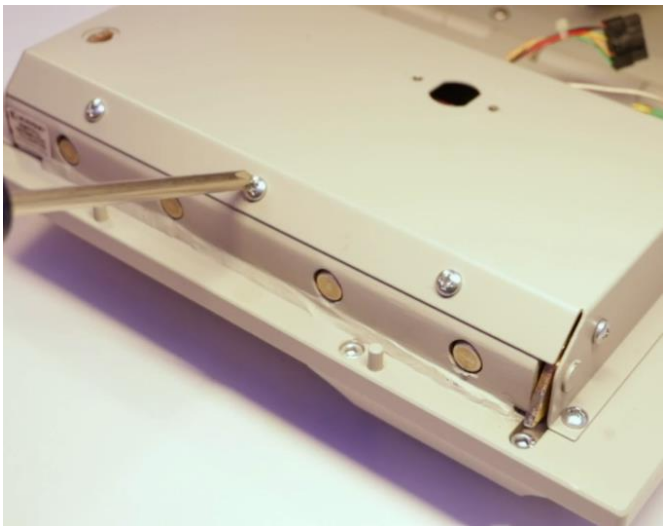
- Remove the 2 screws that secure the tech key cover.

Step #4 Unlock back cover

- Use your Knox Tech Key to unlock the back cover.

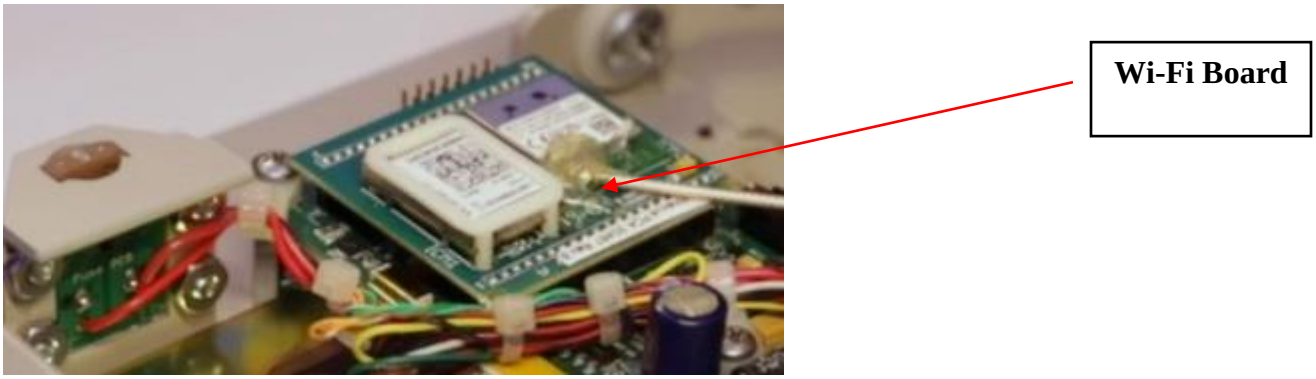
Step #5 Remove the back plate

- Remove the 9 screws from the back plate by using a #2 screwdriver



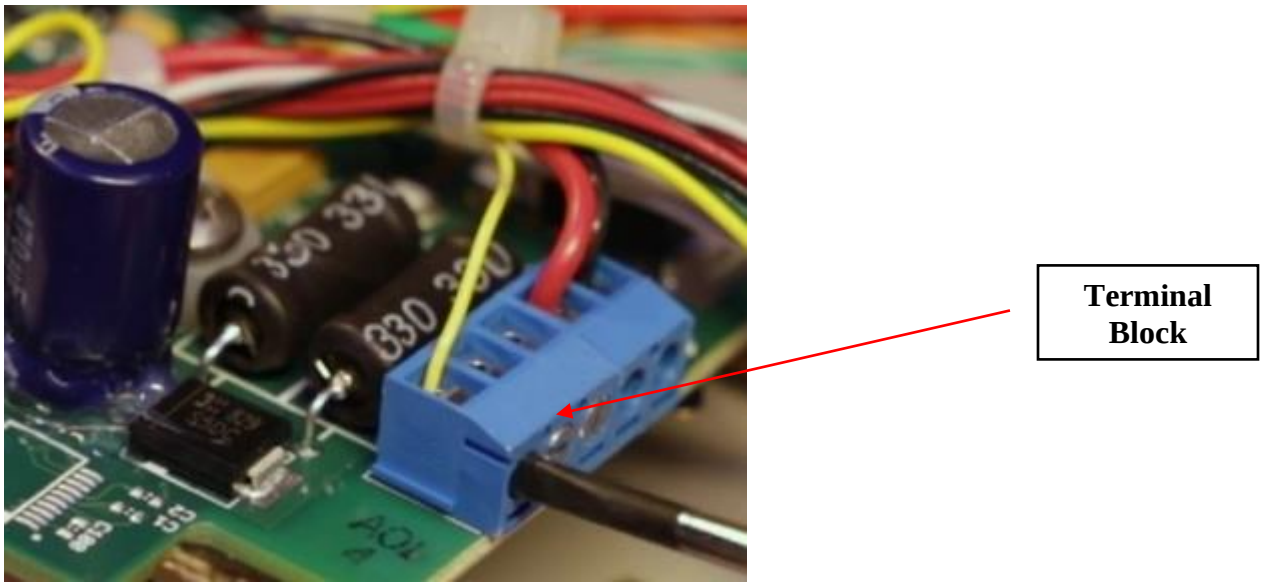
Step #6 Unplug power to board and remove Wi-Fi board

- If your MedVault is equipped with Wi-Fi Remove the top Wi-Fi board gently by rocking back and forth
- MedVault 2.5 board is equipped with a Wi-Fi module on a single circuit board



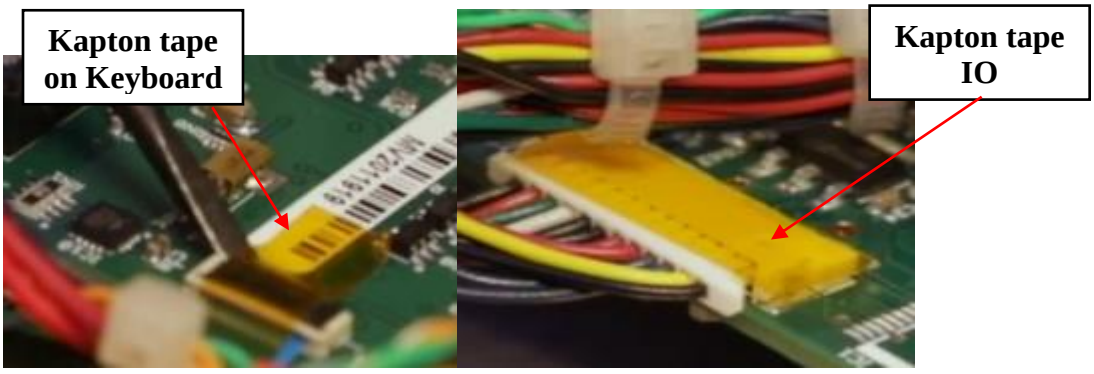
Step # 7 Disconnect Lead wires

- Next step is to disconnect the lead wires. First use a screwdriver to loosen the screws on the terminal block and remove all three wires



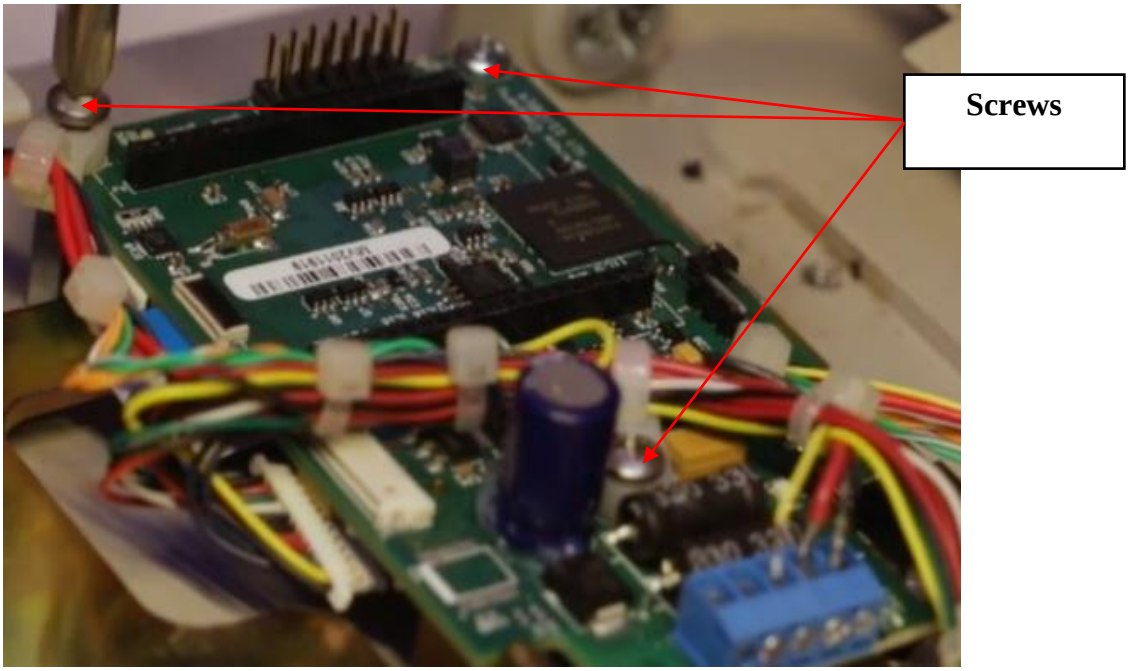
Step #8 Remove tape from board and unplug connections

- Remove the Kapton tape from the keypad display connection and the IO connector
- Disconnect keypad display connection, IO connector, and reset switch connection



Step #9 Remove screws from circuit board

- Use a #2 screwdriver to remove the screws from the top of the circuit board
- Make sure to save the screws for installation of circuit board

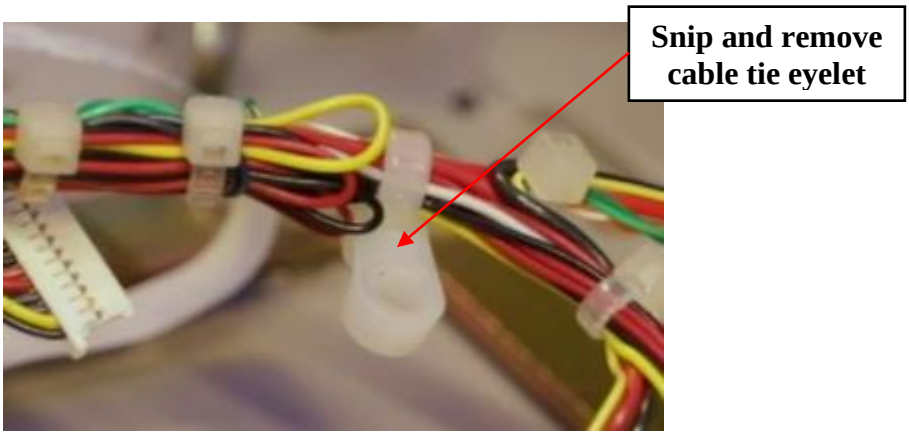


Step #10 Unplug wiring on top of board

- Remove the ethernet connection from the board
- Now the old circuit board can be removed from the MedVault

Step #11 Snip the Cable Tie

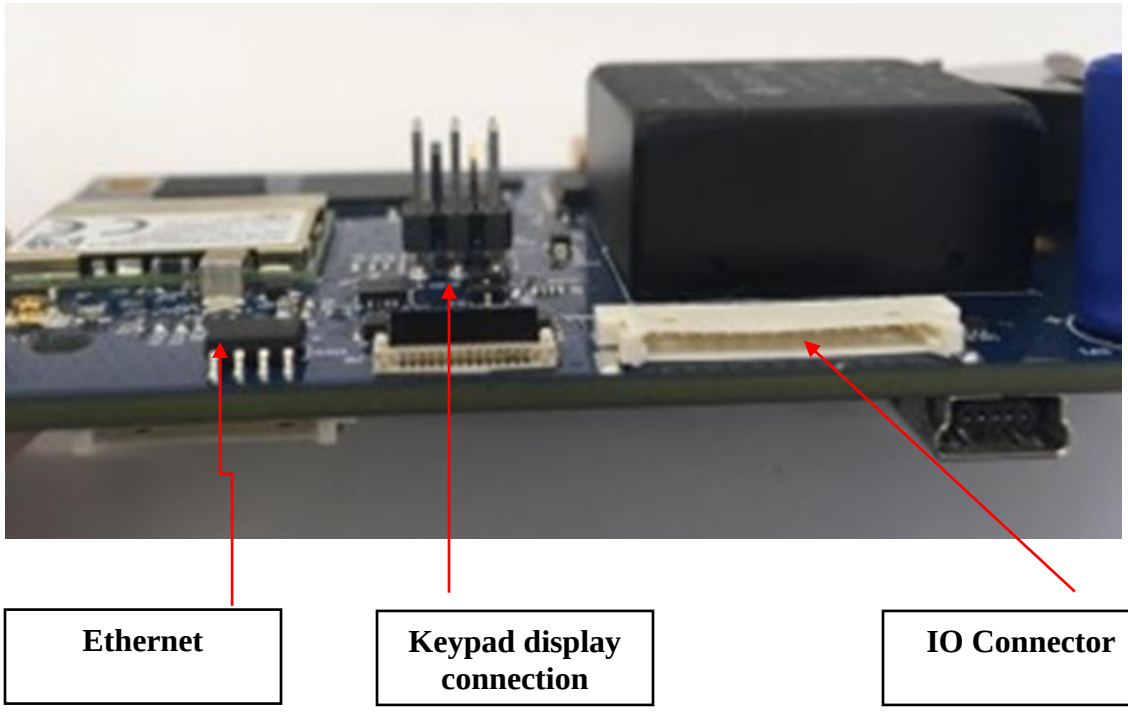
- Once the board is removed, snip the cable tie eyelet or standoff holding the wiring bundle. Be sure to use a fine point wire cutter so that no wires are cut.

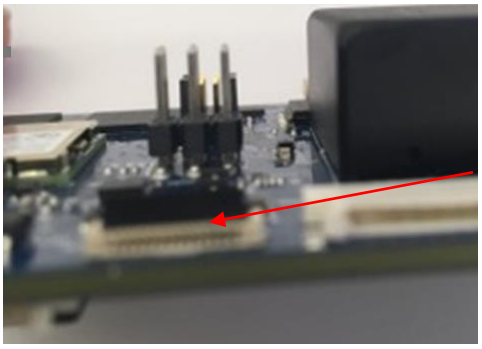


Installing Circuit Board

Step #12 Connect board

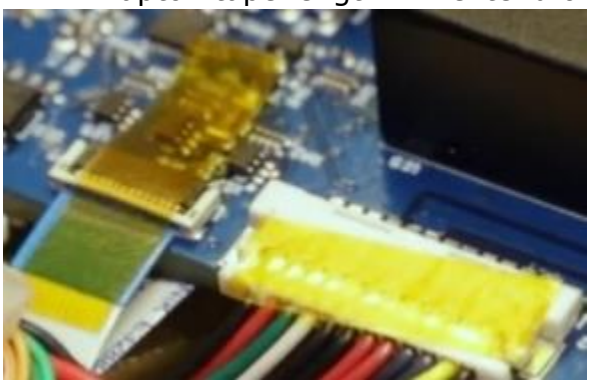
- **Make sure that ESD wrist strap clip is attached to the solenoid bracket**
- You're now ready to install the new MedVault 2.5 circuit board. The connectors from left to right on the board: ethernet, Keypad display, and the IO connector.
- **Carefully install the keypad display connection. If installed incorrectly, the keypad will not function properly.**
- Carefully lift the black tab up, perpendicular to the board
- Insert the blue cable firmly
- Next, gently push down on the black tab to secure the keypad display connector





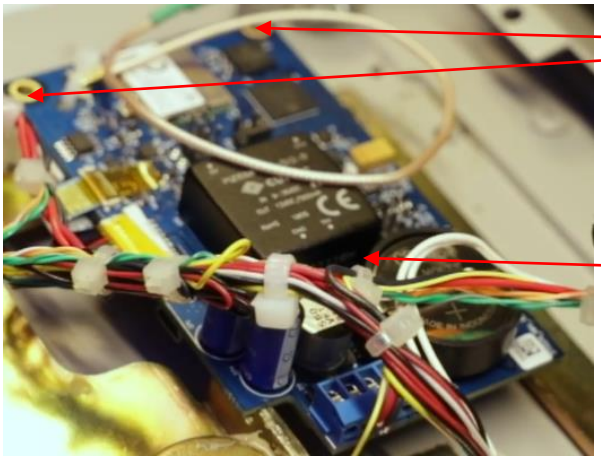
Step #13 Add Kapton tape to Connectors

- Apply Kapton tape to the keypad display connection and the IO connection. Kapton tape is included in the retrofit kit
- Kapton tape length will extend onto circuit board



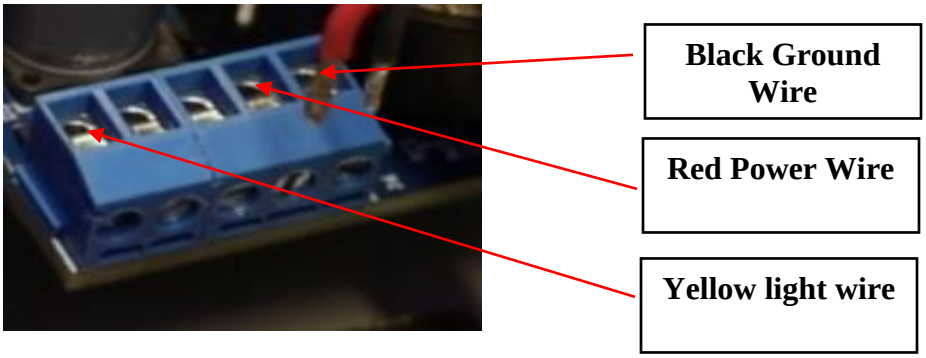
Step #14 Fasten New board

- Fasten the circuit board in place. Use the original MedVault screws for 2 of the locations.
- For the third location near the terminal block, use the screw that is included in the retrofit kit. This screw is a different length



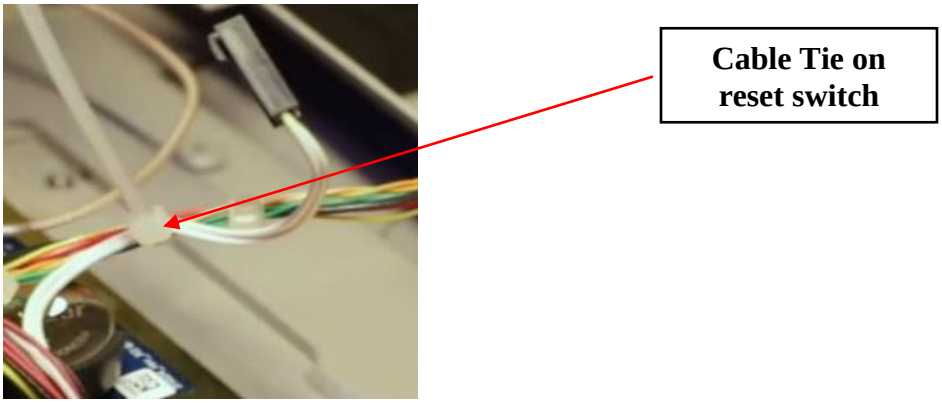
Step #15 Connect Wires to terminal block

- The first wire to install is the black ground wire which is position number 5 in the terminal block. Insert the wire into the terminal block and tighten with a screwdriver. The second wire to install is the red power wire in position #4. The last wire to install is the yellow light wire in position number 1. Ensure the wires are installed in the correct position in the terminal block.



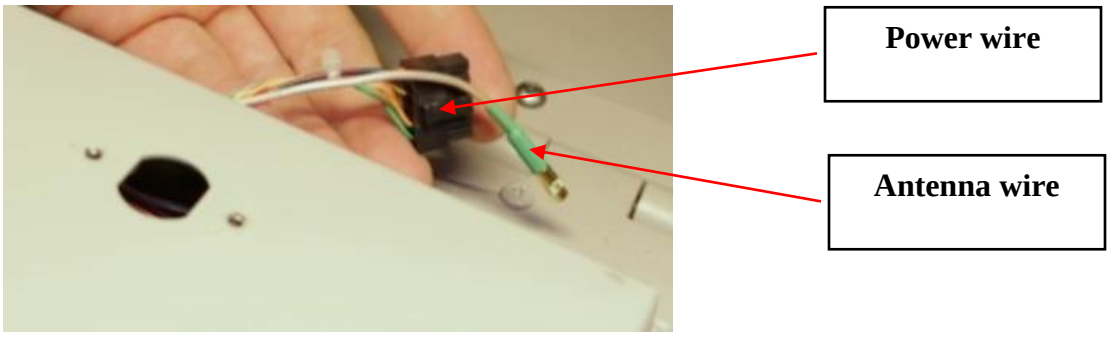
Step #16 Secure Reset Switch wire

- Secure the white reset switch wire by using a cable tie. The reset switch will not be needed with the new Circuit board. To reset the MedVault 2.5, press the "#" key for 5 seconds.



Step #17 Move Antenna cable fasten back plate

- Move the coax antenna cable into the service panel area
- Use the same 9 screws to fasten back plate



Step #18 Tech Lock back in

- Install the Tech Lock

Step #19 Tech Lock cover

- Install the tech lock cover

Step #20 Reconnect power and fasten back plate

- Reconnect the power and antenna wires
- Fasten back plate with 2 screws

Step #21 Initial Set Up

- Now you are ready to power up the MedVault and set up KnoxConnect.
- Please refer to the Knox Networking guide KnoxConnect guide for setting up your MedVault.

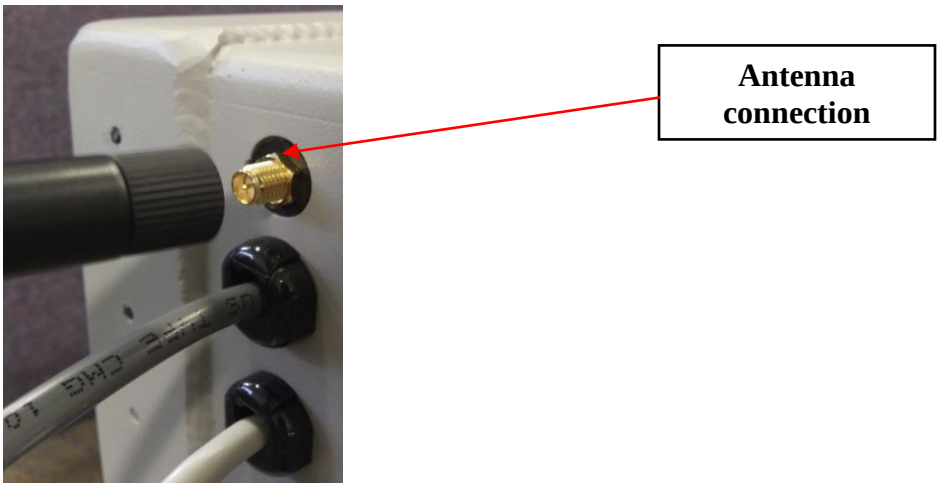
Step #22 Attach Serial Number Label

- The serial number of the MedVault will change when the MedVault 2.5 circuit board is installed. The new serial number is on the MedVault label that is taped to the circuit board packaging.
- Once the circuit board is installed, remove the old label and attach the new serial number label to the front of the MedVault.

Step #23 Optional Step to transform MedVault 2.0 Wi-Fi-Ready to Wi-Fi Standard

If the current MedVault 2.0 has an antenna, this step is not necessary. Wi-Fi-Ready MedVaults 2.0 do not have an antenna and in order for the MedVault 2.5 circuit board to function properly, an antenna must be installed. Antennas are not included in the retrofit kit and must be purchased separately.

- Locate antenna connection on MedVault
- Tighten antenna connection



Contact Technical Support

For Additional assistance, contact Technical Support at 800.552.5669 or techsupport@Knoxbox.com