

## *About Your Bio2Touch*

Thank you for purchasing the TURNSTILES Bio2Touch. The Bio2Touch contains the functionality that is needed in any access control system. Due to the tremendous amount of functions offered, the Bio2Touch may not be shipped configured to your exact needs. This document will explain quick and easy steps to configure the device for your installation. The Bio2Touch when configured to your installation environment will prove itself scalable and reliable.

### **Warranty of All BioTouch Fingerprint Devices**

TURNSTILES provides repair service for products damaged due to manufacturer defects. Exchanges are granted upon suggestion by our technical staff when an RMA is issued. Manufacturer warranties against manufacturer defects are valid for 1 year from the date of purchase.

Returns for a full refund are only available within 30 days of receiving the product.

*This is a Quick Start Guide. Refer to the Bio2Touch Manual and TDM Manual contained on the CD for detailed instructions.*



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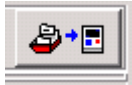


## Configuring the Bio2Touch with the TDM Software

- Step1: Install the TDM application contained on the CD.
- Step2: Connect the Bio2Touch with a serial cable to the PC's COM port (page 7).
- Step3: Supply power to the Bio2Touch (12-20 VDC, 1 amp).
- Step4: Start the TDM application (password default is "PASSWORD").
- Step5: Go to Device Management System under "Touchstar" or "Tools".
- Step6: Click on Add.
- Step7: Type in the Device ID (Device ID is "1" by default on Bio2Touch SW1).
- Step8: Click on Device Connection Setup.
- Step9: Choose the correct Device ID from the drop down menu.
- Step10: Choose the type of communication you are using.  
(Default Dip Switch settings are: RS232 serial communication, baud rate 38400. You must also know your COM port number.)
- Step11: Click on Save Configuration.
- Step12: Click on Poll Device option shown on the front screen of Device Management System.

A successful polling would be indicated by "ON" under Status in the Device Table.  
If polling fails check your Tx, Rx and Ground wiring from the serial cable.

- Step13: Go to Set Device Configuration.
- Step14: Select the configuration for your installation environment.  
(Refer to Bio2Touch manual for configuration types)

- Step15: Click on the icon  to load the configuration to the Bio2Touch.  
A beep will sound to confirm configuration loading. The icon is in the upper right hand corner.

## Settings to Confirm in the "Set Configuration" Screen

When Configuring for Wiegand Output:

- 1) Wiegand output should be enabled.
- 2) Wiegand format may need to be reconfigured when using 26 bits. Start with 26 Bit Standard. If the panel does not recognize the output then go back and choose 26 Bit V1. The Bio2Touch supports two types of 26 bit wiegand, odd and even parity.

When configuring for operation with the TURNSTILES Door Controller:

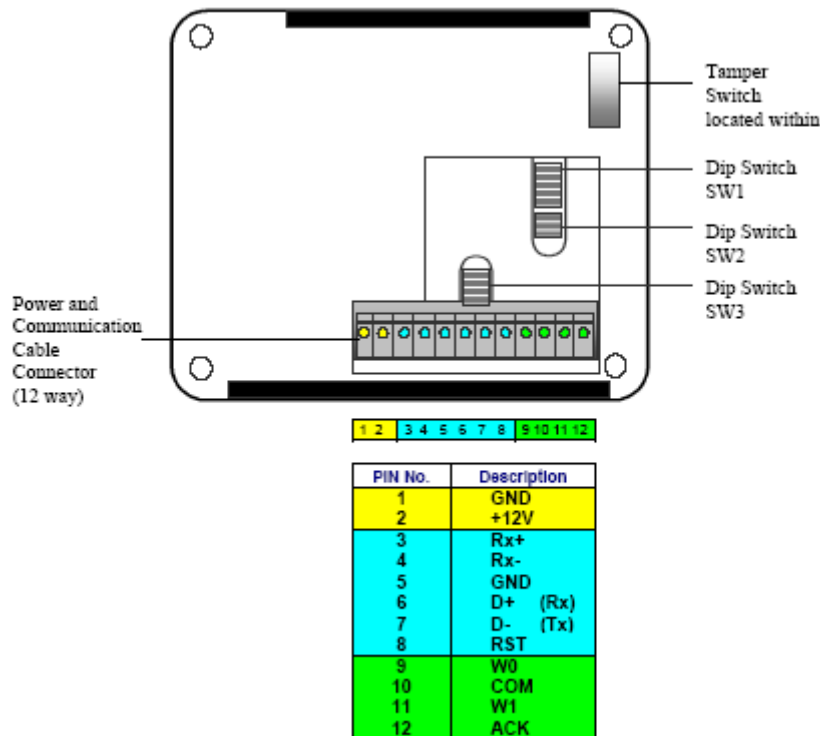
- 1) TS Controller should be enabled.

Note: When changing the configurations you must always click on the icon to load the configurations to the Bio2Touch.





Refer to chapter 6.1 of the Bio2Touch manual, Location of Dip Switches and Connectors

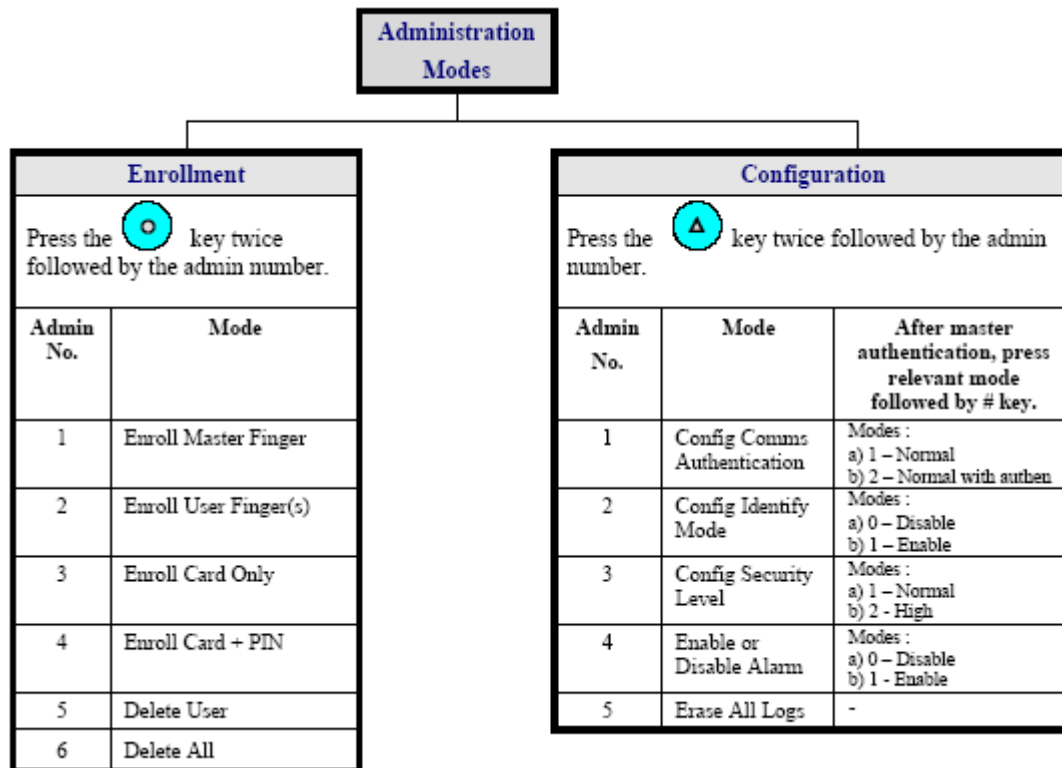


Dip switches are very important. These switches must be properly set for proper communication speed to a PC, network type and most importantly to configure the device ID.

The terminal block is the main connection point. At this connection point you will be able to interface directly to a PC, connect by RS422/485, and communicate with the TURNSTILES door controller or the ECOM (RS232 to TCP/IP converter).



## Reference Guide for the Function Keys



## Frequently Asked Questions

### 1) What do I need for installation with a wiegand panel?

- You will need to know the site code of the panel, card numbers registered and bit format.
- You will need to configure the Bio2Touch using a PC to output a wiegand number to the panel.
- An RS232 cable is required with configuring the Bio2Touch using a PC.
- TDM Lite or above.
- TURNSTILES compatible cards (TURNSTILES Prox II is suggested).

### 2) What do I need for an installation with a magnetic lock or door strike?

You will need the TURNSTILES Door Controller.

### 3) What do I need for installation for a RS422/485 network?

- TURNSTILES ADAM 4520 (RS232 to RS422/485 converter).
- DB9 serial cable (PC to ADAM 4520).
- PC for Bio2Touch connection to TDM application.



**4) What do I need for installation onto a TCP/IP network?**

- TURNSTILES ECOM (RS232 to TCP/IP)
- DB9 serial cable (to configure ECOM)
- ECOM configuration utility
- PC for ECOM configuration application
- available IP address, subnet mask and gateway (ask your IT administrator)

**5) What kind of tools will I need?**

- #1 and #3 Philips screw driver
- #1 flat head and small jeweler screw driver
- 24-26 AWG tinned, stranded, shielded wire
- 16-18 AWG stranded and shielded power wire
- 1/4in drill bit (according to what you are drilling)
- 4 mounting bolts and washers

**6) How do I enroll a card and fingerprint on to the system?**

Enroll by normal procedures but instead of inputting a User ID, present the card over the keypad on the Bio2Touch. The Bio2Touch will read the card and replace that with the User ID. This method will strictly require card and fingerprint.

If you require the user to input a User ID or card then when prompted to input a User ID during enrollment, input the ID printed on the card.

**7) How much pressure should I use when presenting my finger on the sensor?**

It is typically suggested to apply medium pressure. When pushing too hard the sensor may see your fingerprint as an unreadable smudge. There are ridges and valleys that create the fingerprint. Males are known to have wider and more definition between the ridges and valleys. Females are known to have more narrow less definition between the ridges and valleys thus if a woman were to apply too much pressure the sensor may see the finger as an unreadable smudge.

**8) What age groups have the most problems when using fingerprint recognition?**

Children under 13 years old may have some difficulty.

**9) I am enrolled on the system but I'm having difficulty being recognized by the Bio2Touch. How can I improve my rate of success?**

It's best to first figure out which finger works best on the system. Also, play with the system to become comfortable with how to place your finger on the sensor to get a good recognition rate. Most errors are from first time users of fingerprint recognition (i.e. moving the finger while capturing, too much or too little pressure, and partial finger on the sensor glass)



**10) What are the most common errors that lead to recognition failure caused by people when using the system?**

- Moving the finger while the system is capturing.
- The finger is not placed far enough inside the Bio2Touch.
- Too much pressure on the sensor or too little pressure on the sensor.
- User forgets what finger was registered.
- Partial finger placed on the sensor. The fingerprint scanner works best if it can scan as much of the fingerprint as possible.

**11) I've tried and enroll the finger multiple times but still have a high failure rate. What do I do now?**

Issue the user an TURNSTILES Prox II card. The system may have been shipped with two complimentary cards. Read the Bio2Touch manual for instructions on how to enroll the card.

It is unfortunate that the user's fingerprint shows a high failure rate. Fingerprints are very dynamic and can change condition anytime after enrollment. Fingerprints may have to be re-enrolled. If you have the TDM Deluxe you can add another fingerprint record that reflects a different scenario, such as after completing a day of work.

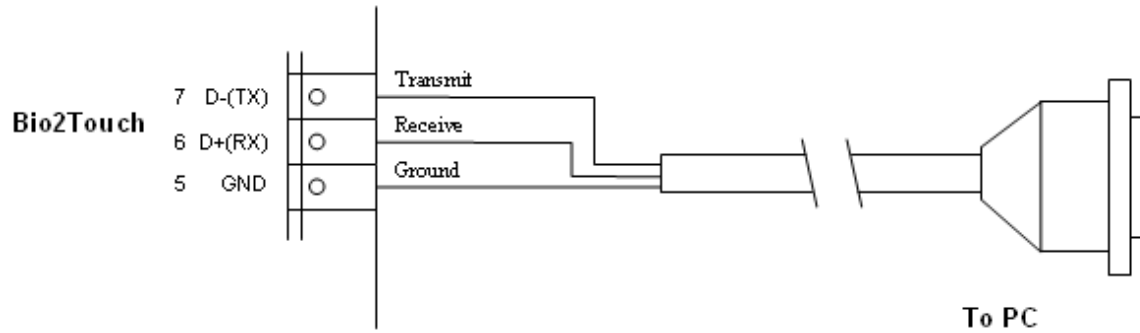
**12) What is the warranty of the BioTouch?**

- 1 year protection against any manufacturer defects.
- Free repair for any damage caused by manufacturer defects within 1 year from time of purchase.
- Full refund within 30 days of purchase for an unused and uninstalled BioTouch device.



## How Do I Wire My Bio2Touch When Connecting to a PC?

Refer to chapter 7 of the Bio2Touch manual, Communicating With The Bio2Touch



TURNSTILES does not include any cables with your purchase. If you have purchased a cable through TURNSTILES then there are two possible configurations for your cable:

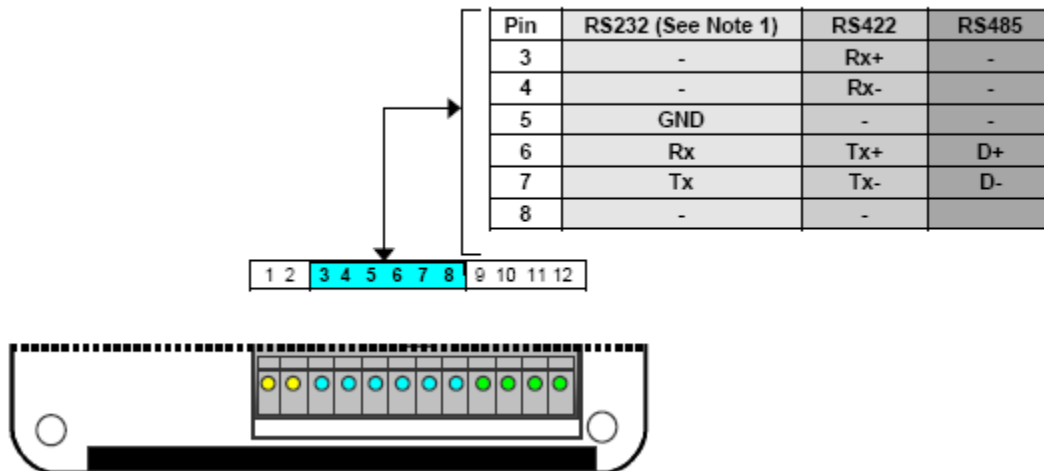
### 1) Black Shielded Cable

- “Ground” = Black
- “Receive” = Orange
- “Transmit” = Red

### 2) Gray Shielded Cable

- “Ground” = Yellow
- “Receive” = Red
- “Transmit” = Brown

## RS422/485 Connections





## Useful Information on the Bio2Touch Dip Switches

### SW3

Switch No./ Serial Interface Type	1	2	3	4	5	6	7	8
RS232*	-	-	-	ON	-	ON	-	ON
RS422	-	ON	ON	-	ON	-	ON	-
RS485	ON	-	ON	-	ON	-	ON	-

\* - Default setting

### Switch 1 and 2 of SW2

Switch / Baud Rate (Bps)	1	2
38400*	ON	ON
19200	-	ON
9600	-	-
2400	ON	-

\* - Default setting

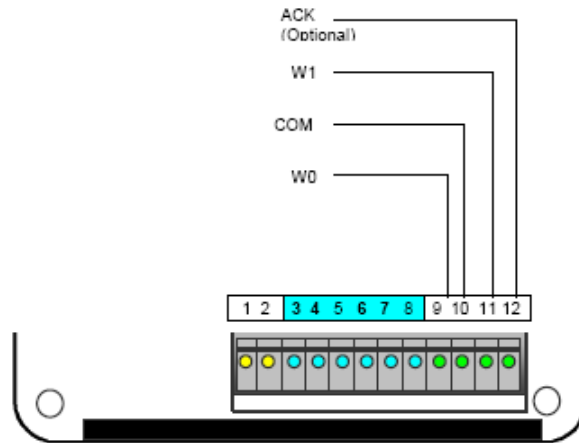
### Switch 3 and 4 of SW2

Switch / Comm Type	3	4
RS232*	ON	ON
Modem	ON	-
TCP/IP	-	ON
RS422 / 485	-	-

\* - Default setting

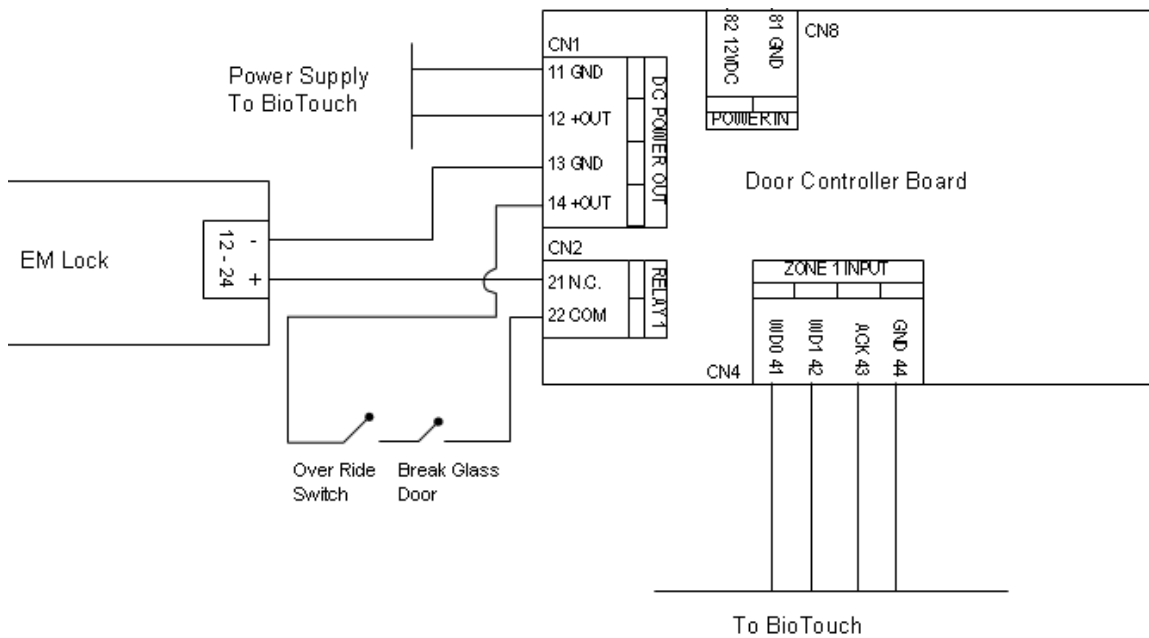
## How Do I Wire My Bio2Touch When Connecting to the TURNSTILES Door Controller?

Refer to chapter 8 of the Bio2Touch manual, Interfacing With Door Controllers

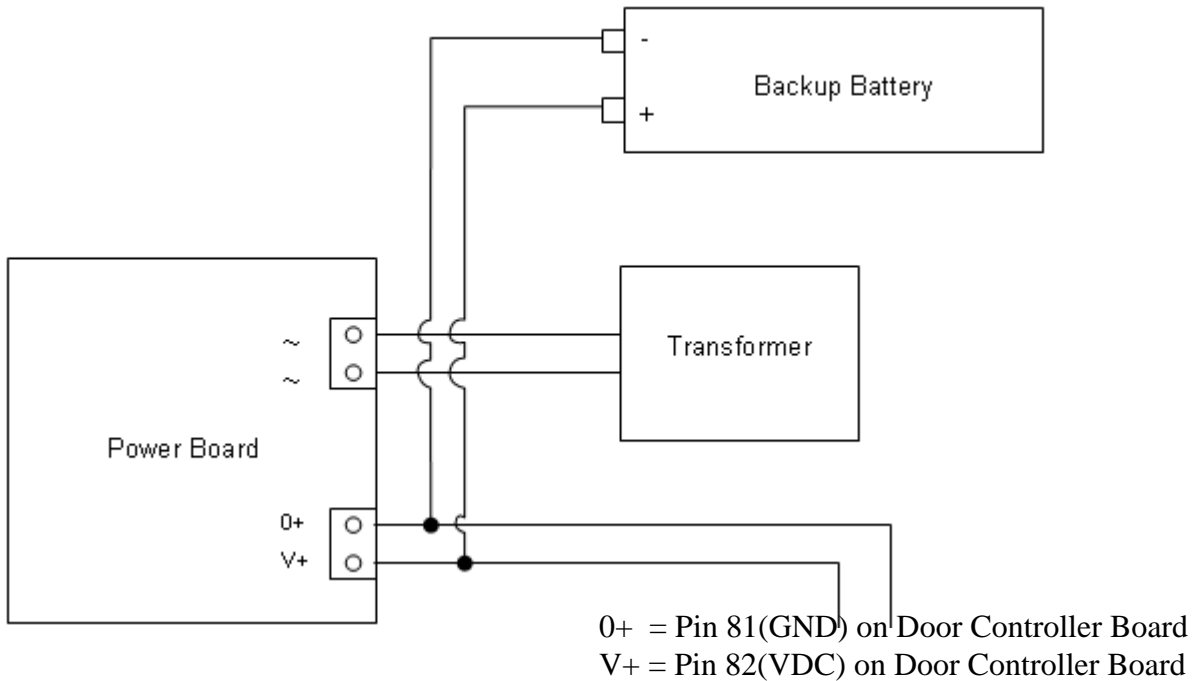


### Wiring to the Door Controller Board

Note: Connections to pins 81 and 82 make up the main power supply input. Typical main power supply setup is shown in detail following this diagram.

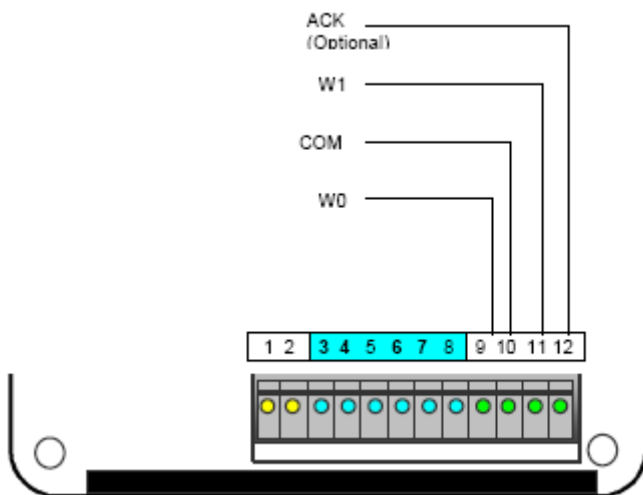


### Main Power Supply Setup



## How Do I Wire My Bio2Touch When Connecting to a Wiegand Panel?

Refer to chapter 8 of the Bio2Touch manual, Interfacing With Door Controllers



- Wire W1 and W0 to your Wiegand Panel. COM on might also have to be connected the panel's ground.

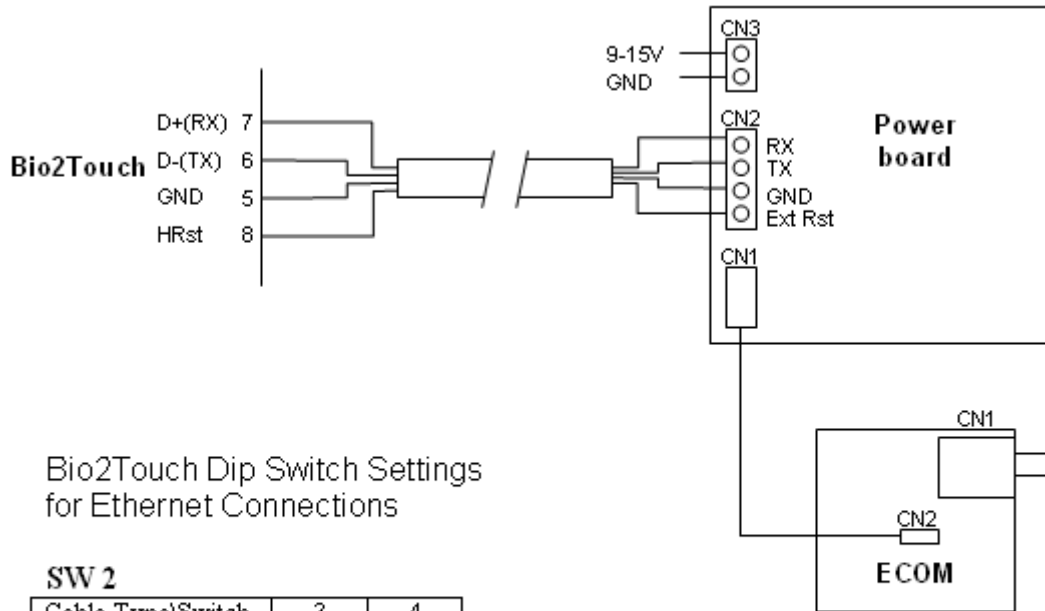
**Note:** You must activate the Wiegand output feature on the Bio2Touch by using the TDM software included on the CD.



## **How Do I Wire My Bio2Touch When Connecting to the TURNSTILES ECOM?**

**Refer to chapter 7 of the Bio2Touch manual, Communicating With The  
Bio2Touch**

Note: TURNSTILES ECOM, is an RS232 to TCP/IP converter and is sold as an optional unit.



Bio2Touch Dip Switch Settings for Ethernet Connections

**SW 2**

Cable Type\Switch	3	4
TCP/IP	-	ON

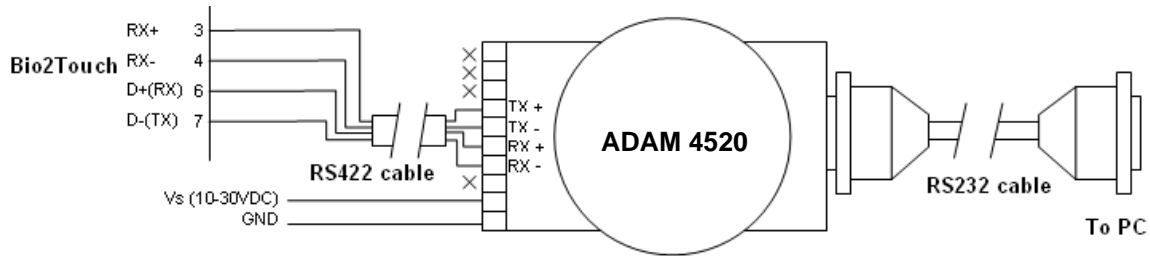
**SW 3**

Cable Type\Switch	1	2	3	4	5	6	7	8
TCP/IP	-	-	-	ON	-	ON	-	ON

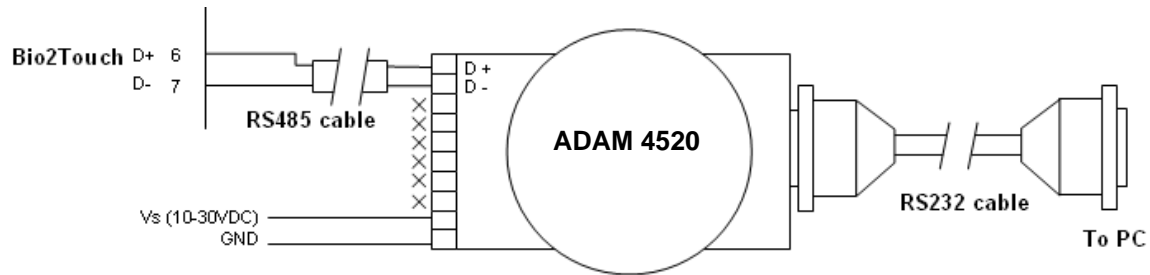
**How Do I Wire My Bio2Touch When Connecting to the ADAM 4520 (RS232 to RS422/485 Converter)?**

Note: The ADAM 4520 is preconfigured to operate at a baud rate of 9600. If you need to increase this communication speed consult with the ADAM 4520 instruction manual and configure the internal dip switches. The ADAM 4520 also requires a DC power supply rated at 10-30 volts.

**RS422**



### RS485



## Enrolling the First Master (Administrator) of the Bio2Touch

Refer to Chapter 4 of the Bio2Touch Manual, Using the Administration Modes

1. Press , ,
2. Enter the 4 digit User ID you wish to use (by default the Bio2Touch is configured to operate using 4 digit ID's).
3. Place the finger on the sensor when the sensor lights starts flashing.
4. Remove the finger from the sensor when the series of beeps sound (removal of the finger is necessary otherwise enrollment may fail).
5. Place the finger on the sensor again for a final capture.

Detailed instructions are given in chapter 4 of the Bio2Touch manual and discuss how to interpret the LEDs and the sounding beeps.

Pressing will escape from any procedure.

## Enrolling a User of the Bio2Touch

Refer to Chapter 4 of the Bio2Touch Manual, Enrolling a User with 1 to 3 Fingerprints

1. Press , ,
2. When the sensor starts blinking place the master finger on the sensor.



3. Enter the 4 digit User ID (or place the TURNSTILES Prox II card over the Bio2Touch keypad) you wish to use. A number that exists in the system will be rejected and the Bio2Touch will return to normal mode. By default the Bio2Touch is configured to operate using 4 digit ID's
4. Place the finger to be enrolled on the sensor when the sensor lights starts flashing. If the capture fails the first LED will blink red and the second will blink fast in green. Press to retry or press to exit.
5. Remove the finger from the sensor when the series of beeps sound (removal of the finger is necessary otherwise enrollment may fail).
6. Place the finger on the sensor again for a final capture. If the capture is successful the first and second LEDs will blink in green. If the capture is not successful the first LED will blink red and the second will blink fast in green.
7. Press to start enrollment of another finger (or to retry again from a failed attempt). If you want to stop enrollment press to exit.

Detailed instructions are given in chapter 4 of the Bio2Touch manual and discuss how to interpret the LEDs and the sounding beeps.

Pressing will escape from any procedure.

## Enrolling a TURNSTILES Prox II Card on the Bio2Touch

1. Press , ,
2. When the sensor starts blinking place the master finger on the sensor.
3. Present the card over the keypad portion of the Bio2Touch.



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