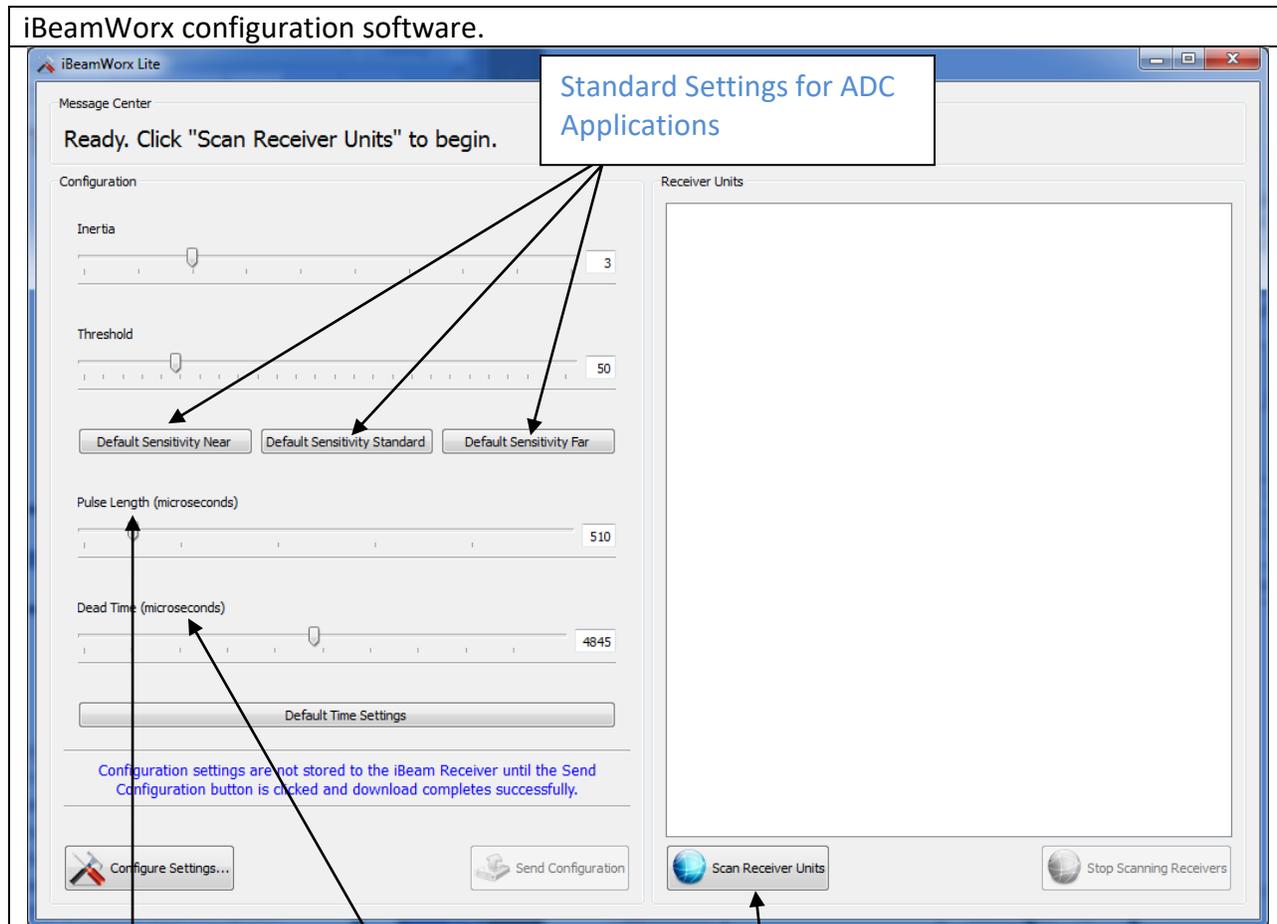# iBeamWorx

User Manual

I.   Introduction.

This manual will introduce you to the ADC iBeamWorx configuration software.
Using the iBeamWorx configuration software, you can set the sensitivity, pulse width, and record intensity of the unit.

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iBeamWorx configuration software.

Standard Settings for ADC Applications

Pulse Width Adjustment

Dead Time

Scan Current Receiver Settings

The pulse width is the length of time the output will remain "active" after being triggered. The rising pulse (active high) output will transition from low to high upon being triggered, and then remain high for the selected period of time. The falling pulse (active low) output will transition from high to low upon being triggered, and then remain low for the selected period of time, known as the Dead Time.

The proper pulse width setting is only a function of the speed-measuring equipment (chronograph) that is being used. 'Slower' chronographs or DAQ units may require longer pulses in order to function properly. In cases where the chronograph is the ADC VelociGraph, the pulse width should be set to a 510 microseconds.

II.   Requirements

- Microsoft Windows 7/10/11
- Microsoft MSVC Runtime 2010 (included with installer)
- VG03 Programming Cable.
- A PC with a USB-A Port

III.   Cable Connections.

2325-422 Programming Cable/ USB Converter.
The programming cable consists of an M8 Socket on one end and a RS422/USB converter on the other. Explanation of the cable is as follows:

Screw Terminal	RS 485	RS422	Sensor Connection
			M8 Pins/ color
1	D+	TX+	
2	D-	TX-	3 Blue
3		RX+	4 Black
4		RX-	1 Brown
5	GND	GND	2 White

IV.   Installation

The iBeamWorx software is distributed as a standard Windows installer. Execute the installer file and follow through the installation Wizard.
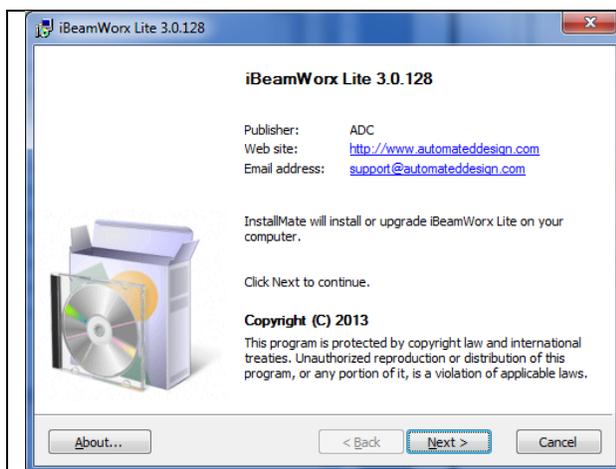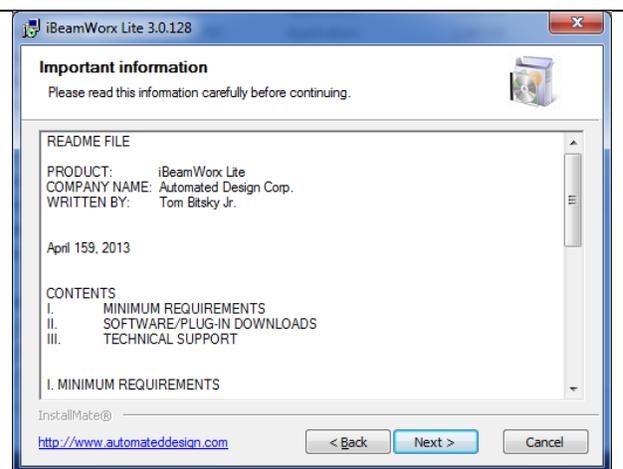

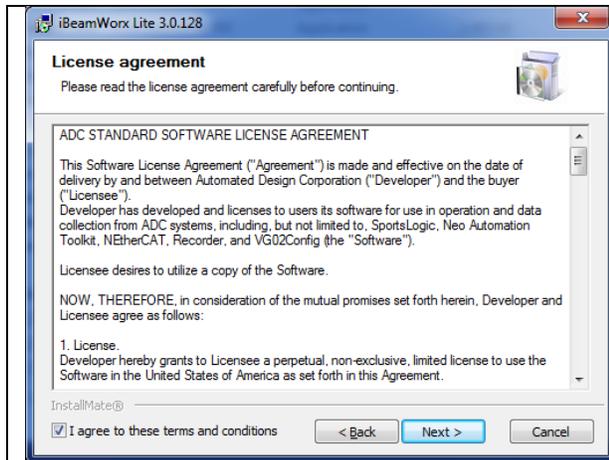| Figure 3.1 – iBeamWorx 3.0.128 | Figure 3.2 – ReadMe File |

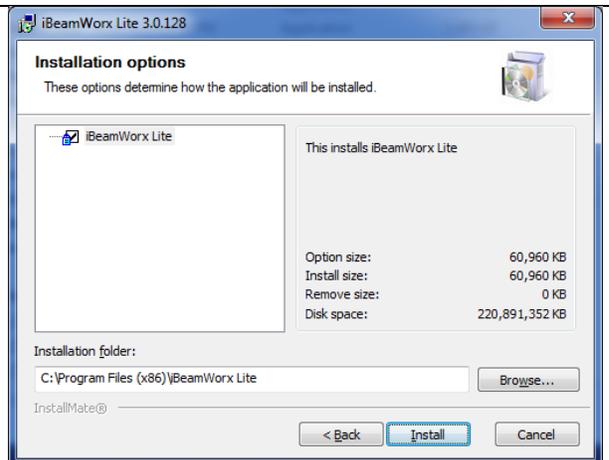| Figure 3.3 – License Agreement.	Figure 3.4 – Installation Folder.
*You need to accept the License Agreement to proceed.	*Accept the default folder

The iBeamWorx software requires Microsoft Visual C++ 2010 Redistributable Package, which is included in the installation of the iBeamWorx software.
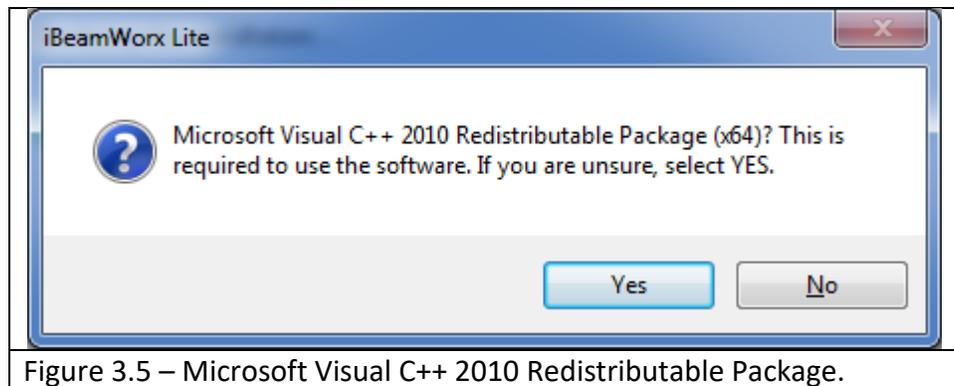

Figure 3.5 – Microsoft Visual C++ 2010 Redistributable Package.

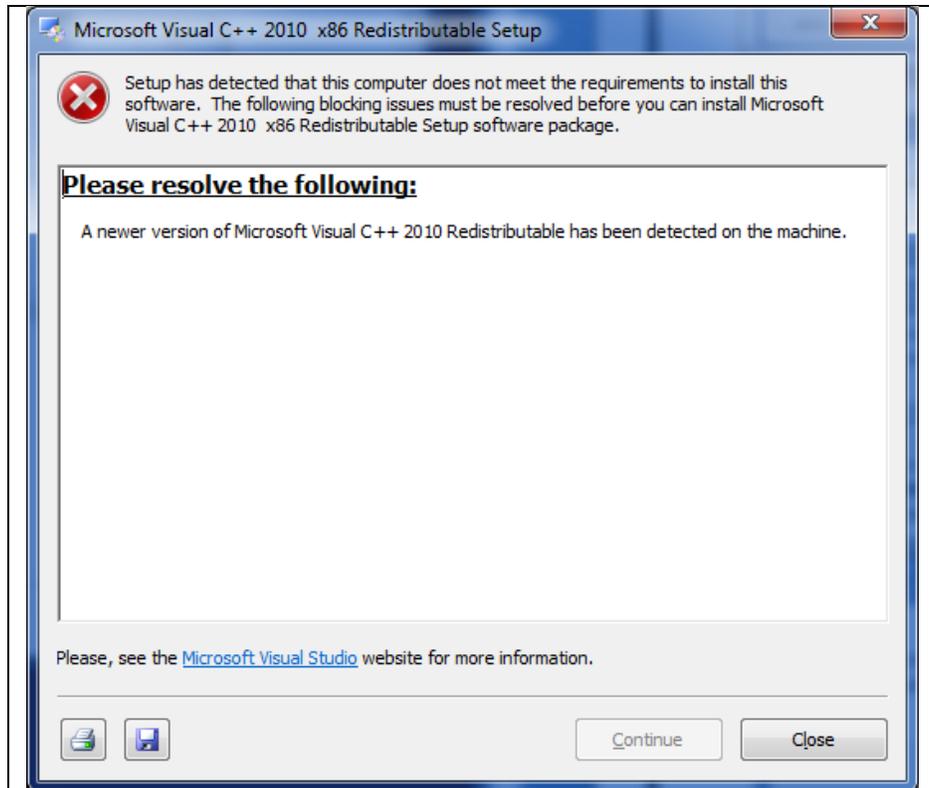Before installation is complete, the installation software might alert of the Redistributable Setup. Click close.

Figure 3.6

Finally, click *Finish.*
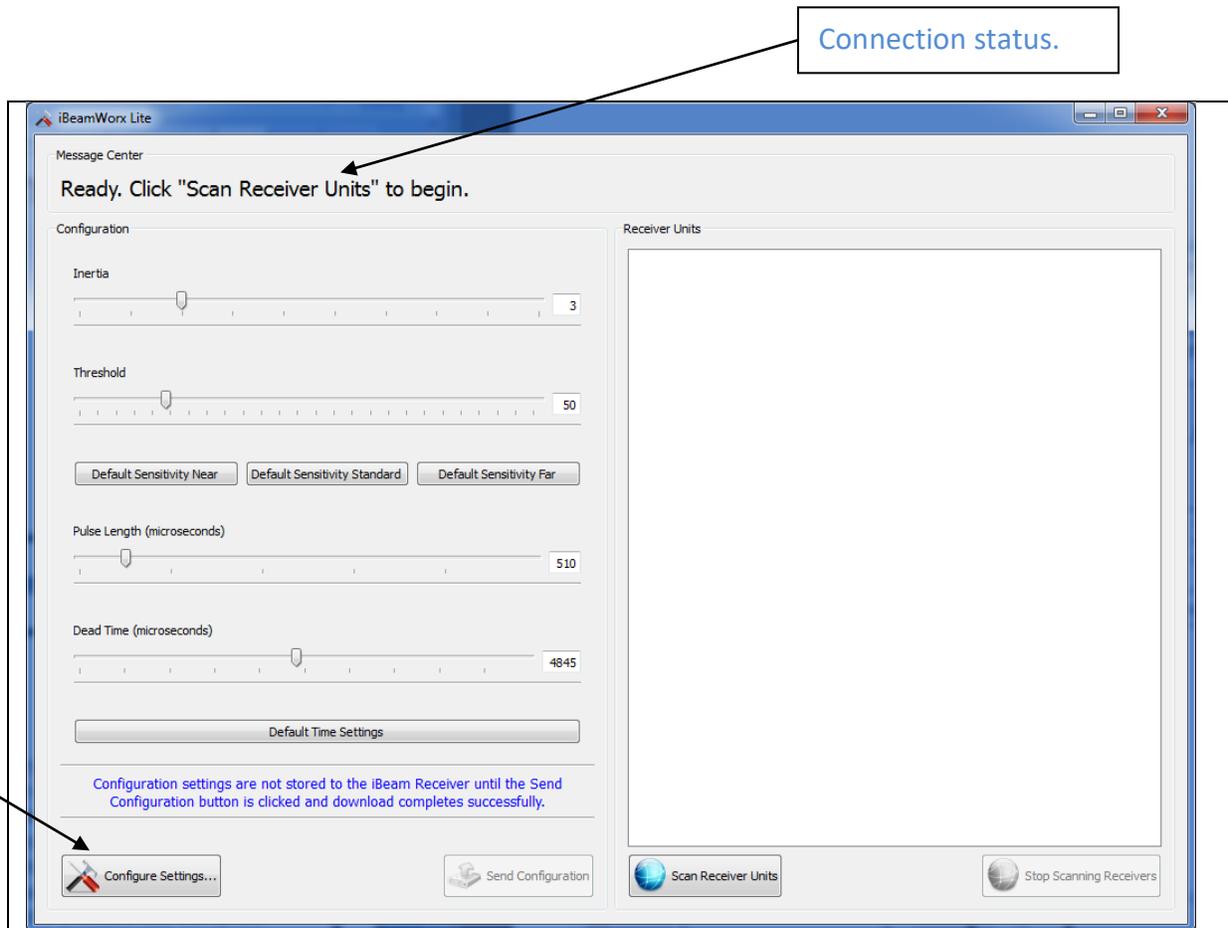
V. iBeamWorx Software.

Connection status.

Figure 4.1 – iBeamWorx software.
If the interface is not set to the proper COM# a message will appear indicating a serial port open fail. i.e. "Failed to open serial port." This message will appear on the upper left-hand corner.

1. Before configuring, the proper COM# needs to be set according to the COM# the computer is using to communicate.

   To check the COM# on the computer.

   a. Click the **Start** button on your computer.
   b. Go to **Control Panel.**
   c. Click **Hardware and Sound.**
   d. Under "Devices and Printers", click on **Device Manager.**
   e. Under "Ports (COM & LPT)", there should be the COM# the computer is using to communicate. I.e. **USB Serial Port (COM#)**

2. Click **Configure Settings...**
   a. Set the COM# to the proper value.
   b. Click **Ok**
3. Scanning Receivers
   Ensure the iBeam Sensors are properly set up. Click **Scan Receiver Units**
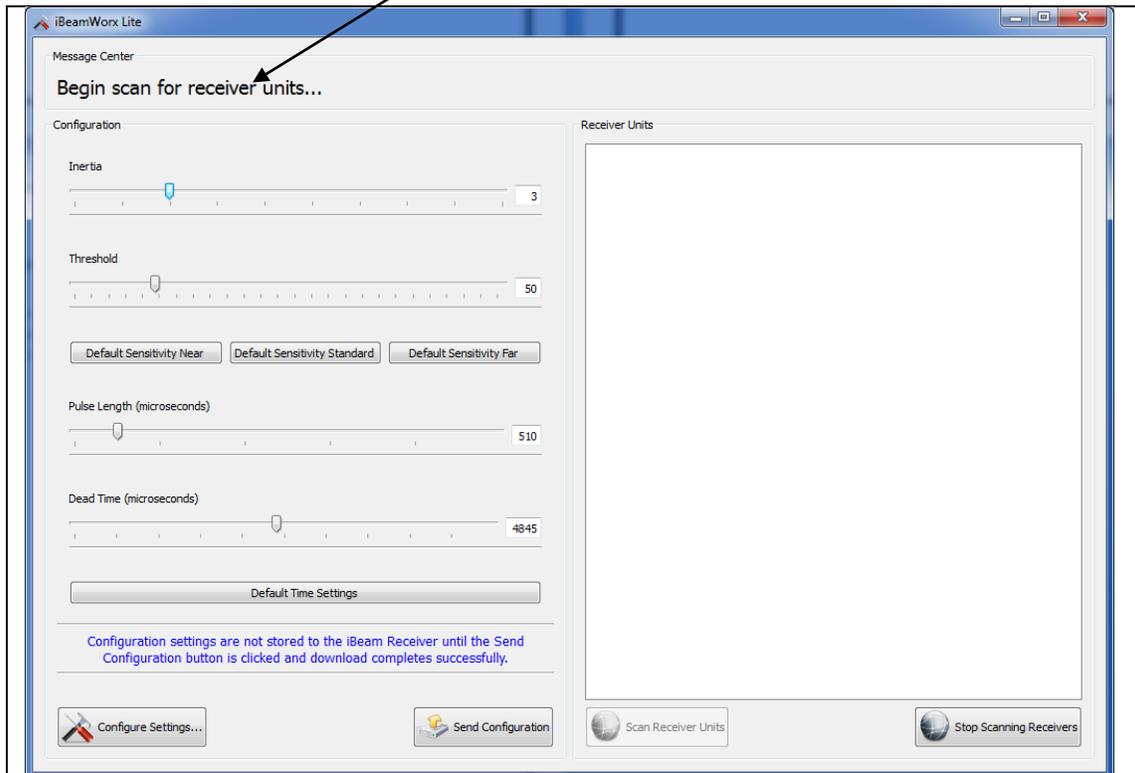
Connection status

Figure 4.2 – Scanning Receivers.
A message will appear at the top left-hand corner to indicate a scan has begun.
If there was an unsuccessful scan the following message will appear, "Timeout. No response from network. Check Connection." Make sure iBeam Sensors are on. The latest iBeam Sensor models need to be connected to a VelociGraph unit to turn on.
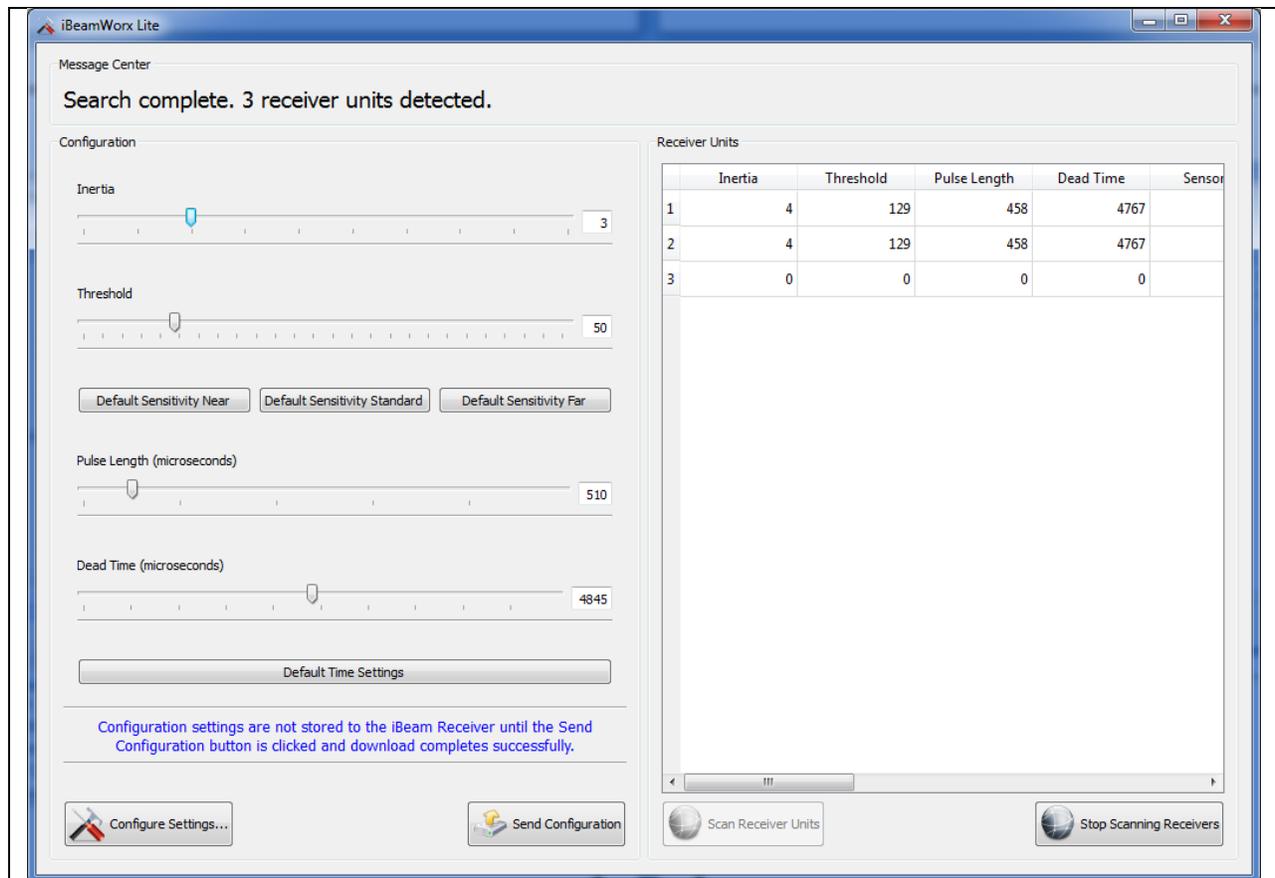
Figure 4.3 – Receiver detected

Once the iBeamWorx software successfully detects the receivers on the iBeam sensors, it will display its properties under Receiver Units. The software will keep scanning the receivers until the **Stop Scanning Receivers** is clicked.

4. Send Configuration.
   In order to properly change the receiver's properties, the software must be scanning the receivers. It will automatically display the changes under Receiver Units.

VI.   Troubleshooting

1. Make sure the iBeam Sensors are properly setup. For complete instructions on how to setup iBeam Sensor units, please refer to the current iBeams user manual.
2. iBeam Sensors must be connected to power to operate and communicate. If an VelociGraph is used, power is supplied via the VelociGraph. The M12 connector on the **iBeam Receiver** is the power/output connection. The VelociGraph unit must be turned on for communications.
3. The programming cable must be connected to the M8 connector on the **iBeam Receiver** and NOT the VelociGraph unit.

4. The correct COM# must be chosen from the Configure Settings pop-up window on the interface.
5. If "Failed to open serial port." message keeps appearing, click the **Default Time Settings** button and try again.

For further assistance, you may contact our technical support department in the following ways:
- Email: support@automateddesign.com
- Phone: (630) 783-1150 USA
  - International: 00-1-630-783-1150
  - Japan: 010-1-630-783-1150