# **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 Lite		
Message Center	Standard Settings for ADC	
Ready. Click "Scan Receiver Units" to begin.	Applications	
Configuration	Receiver Units	
Inertia		
	3	
Threshold		
	, 50	
Default Sensitivity Near Default Sensitivity Standard Default Sen	sitivity Far	
	,	
Pulse Length (microseconds)		
	510	
Dead Time (microseconds)		
	4845	
Default Time Settings		
Configuration settings are not stored to the iBeam Receiver until	Lthe Send	
Configuration button is cicked and download completes succe	essfully.	
Configure Settings	nd Configuration Scan Receiver Units	Stop Scanning Rece
viath Adjustment		

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
1	D+	TX+	M8 Pins/ color
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.



🛃 iBeamWorx Lite 3.0.128	i BeamWorx Lite 3.0.128
License agreement Please read the license agreement carefully before continuing.	Installation options These options determine how the application will be installed.
ADC STANDARD SOFTWARE LICENSE AGREEMENT         This Software License Agreement ("Agreement") is made and effective on the date of delivery by and between Automated Design Corporation ("Developer") and the buyer ("Licensee").         Developer has developed and licenses to users its software for use in operation and data collection from ADC systems, including, but not limited to. SportsLogic, Neo Automation Tookkt, NEtherCAT, Recorder, and VG02Config (the "Software").         License desires to utilize a copy of the Software.         NOW, THEREFORE, in consideration of the mutual promises set forth herein, Developer and Licensee agree as follows:         1. License.         Developer hereby grants to Licensee a perpetual, non-exclusive, limited license to use the Software in the United States of America as set forth in this Agreement.         InstallMate@         If agree to these terms and conditions <a href="mailto:Back">Back</a> Next > Cancel	BeamWorx Lite       This installs iBeamWorx Lite         Option size:       60,960 KB         Install size:       60,960 KB         Remove size:       0 KB         Disk space:       220,891,352 KB         Installation folder:       C:\Program Files (x86)\BeamWorx Lite         InstallMate(%)          < Back
Figure 3.3 – License Agreement	Figure 3.4 – Installation Folder
	*Assess the default felder
"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.



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

Microsoft Visual C++ 2010 x86 Redistributable Setup	
Setup has detected that this computer does not meet the requirements to install this software. The following blocking issues must be resolved before you can install Microsoft Visual C++ 2010 x86 Redistributable Setup software package.	
Please resolve the following:	-
A newer version of Microsoft Visual C++ 2010 Redistributable has been detected on the machine.	
Please, see the Microsoft Visual Studio website for more information.	
Figure 3.6	

Finally, click Finish.

# V. iBeamWorx Software.

Configuration	Receiver Units
Inertia	
· · · · · · · · · · · · · · · · · · ·	
Threaded	
Default Sensitivity Near Default Sensitivity Standard Default Sensitivity Far	
Pulse Length (microseconds)	
Dead Time (microseconds)	
Default Time Settings	

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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.

Connection status

b. Click **Ok**3. Scanning Receivers

Ensure the iBeam Sensors are properly set up. Click Scan Receiver Units

Configuration	Receiver Units
Inertia	
Threshold	
Default Sensitivity Near Default Sensitivity Standard Default Sensitivity Far	
Pulse Length (microseconds)	
Dead Time (microseconds)	
Default Time Settings	
Configuration settings are not stored to the iBeam Receiver until the Send	

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.

ornguration		Recei	er Units				
Inertia			Inertia	Threshold	Pulse Length	Dead Time	Sense
0		3 1	4	129	458	4767	
	1 1	2	4	129	458	4767	
Threshold		3	0	0	0	0	
		50					
Default Sensitivity Near Default Sensitivity Standard D	Jota ult Conditivity Lar						
	Jeradic Sensitivity rai	ar					
Pulse Length (microseconds)	Jeraur Sensiuvity Fai	ar					
Pulse Length (microseconds)	erault Sensitivity Fai	510					
Pulse Length (microseconds)		510					
Pulse Length (microseconds)		510					
Pulse Length (microseconds)		510					
Pulse Length (microseconds)		510 4845					
Pulse Length (microseconds)	, 4	510 4845					
Pulse Length (microseconds)  Dead Time (microseconds)  Dead Time (microseconds)  Default Time Settings		510 4845					
Pulse Length (microseconds)		s10					
Pulse Length (microseconds)  Dead Time (microseconds)  Dead Time (microseconds)  Default Time Settings  Configuration settings are not stored to the iBeam Recee Configuration button is clicked and download complete	eiver until the Sen tes successfully.	510 4845					
Pulse Length (microseconds)	eladt Selsionty fa	s10 4845					

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.
- 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: <a href="mailto:support@automateddesign.com">support@automateddesign.com</a>
- Phone: (630) 783-1150 USA
  - International: 00-1-630-783-1150
  - Japan: 010-1-630-783-1150