

SimulANT+ User's Guide

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Revision History

Revision	Effective Date	Description
1.0	November 2012	Creation of document

Table of Contents

1	Introduction	6
2	Getting Started	6
2.1	Setup Bike Cadence Sensor	7
2.1.1	Device Panel	7
2.1.2	Add Simulator Window	7
2.1.3	Properties Panel	8
2.1.4	Action Panel	9
2.1.5	Output Panel	9
2.2	Simulating Bike Cadence Sensor	9
2.2.1	Device Panel	10
2.2.2	Add Simulator Window	10
2.2.3	Action Panel	10
2.2.4	Output Panel	10
3	Script Panel	12

List of Figures

Figure 2-1. SimulANT+ Application Window.....	6
Figure 2-2. Device Panel.....	7
Figure 2-3. Add Simulator Window.....	7
Figure 2-4. Properties Panel.....	8
Figure 2-5. Action Panel	9
Figure 2-6. Output Panel	9
Figure 2-7. Connected to sensor.	10
Figure 2-8. Bike Cadence Display	11
Figure 2-9. Bike Cadence Sensor.....	12

1 Introduction

SimulANT+ is an application used for simulating ANT+ devices and display. It is an excellent test tool for first time ANT developers to simulate a sensor and test their display or vice versa.

Microsoft .Net Framework 4.0 is required for proper operation of SimulANT+.

2 Getting Started

This document will demonstrate how to setup a wireless communication between a simulated bike cadence sensor and display. Two ANT USB sticks are required for this guide.

Figure 2-1 shows the main application window.

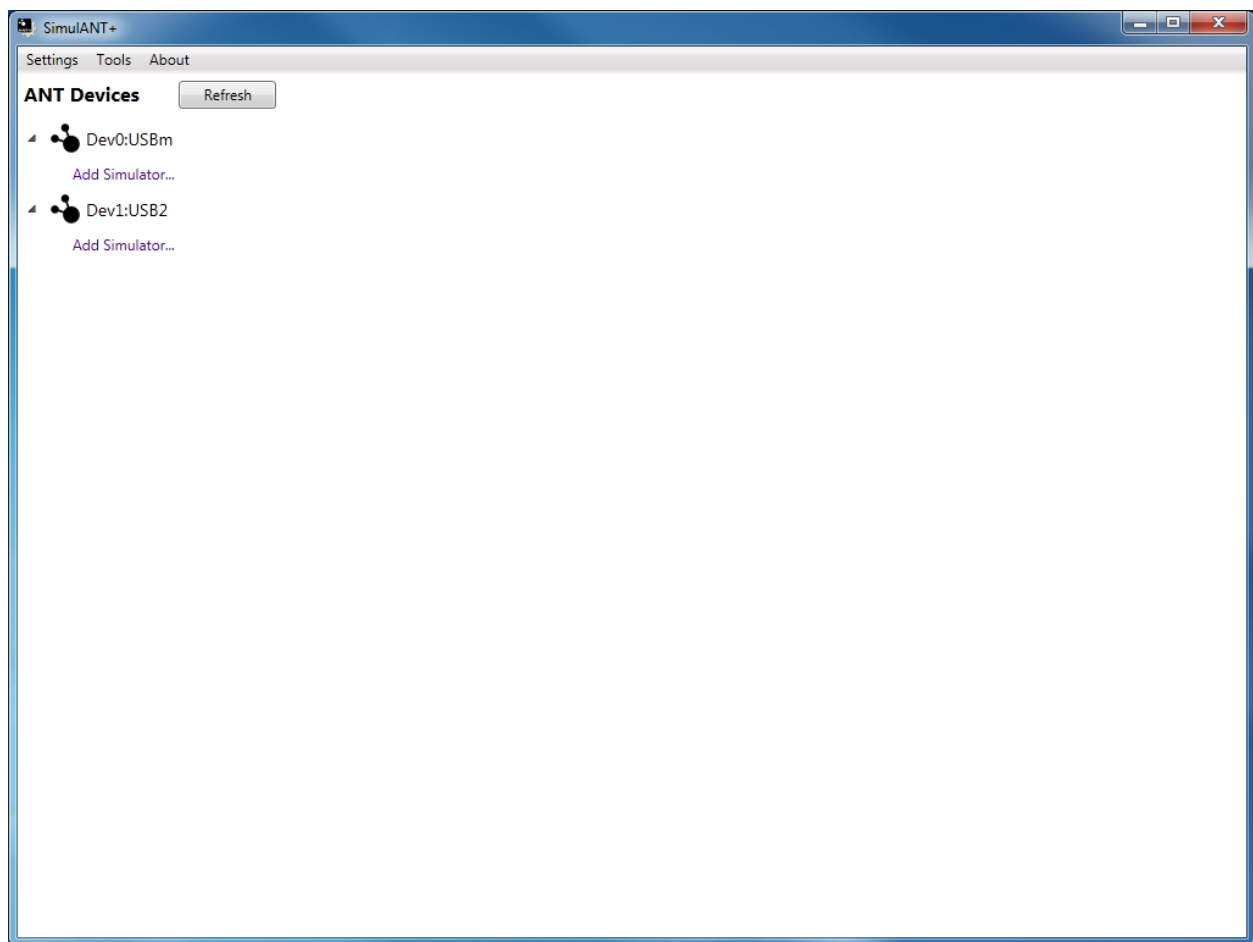


Figure 2-1. SimulANT+ Application Window

2.1 Setup Bike Cadence Sensor

The following section is a description of the user interface along with instructions on how to setup a bike cadence sensor simulator.

2.1.1 Device Panel

The device panel shows all the ANT USB devices connected to the PC not in use by other applications. To view the capabilities of the respective ANT device, right click on the device and go to properties. If two ANT USB stick are connected to the PC, the device panel will look similar to Figure 2-2.



Figure 2-2. Device Panel

2.1.2 Add Simulator Window

Click on the Add Simulator button under the Dev0 in the device panel. An Add Simulator window will pop up. The drop-down list displays a list of available device profiles. To select a device profile, simply click on the drop-down list and then select the desired profile.

Select the Bike Cadence Sensor option from the drop-down list.

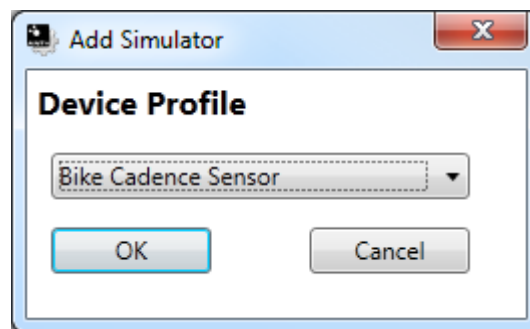


Figure 2-3. Add Simulator Window

2.1.3 Properties Panel

The properties panel shows details of the selected simulator. It is located at the center column of the application window. Certain fields under the ANT Channel Configuration can be modified by the user along with simulated specific parameters (e.g. cadence).

Properties

Bike Cadence Sensor

- ANT Channel Configuration**
 - Channel Parameters

Channel Period	8102
Device Number	1
Device Type	122
Transmission Type	5
Transmit Power	3
Use Pairing Bit	☐
 - Calculated Data

Bike Cadence Event Time	57628
Cumulative Cadence Revolution Count	1622
Transmitted Cadence (rpm)	90.0880
 - Configuration

Background Page Interval	65
Cadence (rpm)	90.0000
Cumulative Operating Time Enabled	☒
 - Data Pages
 - Cumulative Operating Time
 - Default Data
 - Manufacturer ID
 - Product ID

Figure 2-4. Properties Panel

2.1.4 Action Panel

The action panel is located near the bottom center of the window. Click on the TurnOn Button.

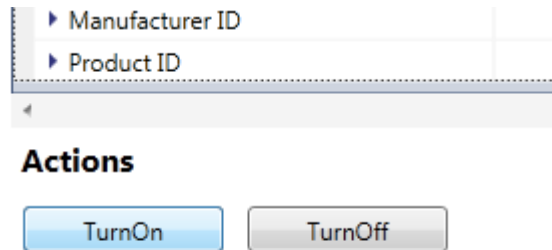


Figure 2-5. Action Panel

2.1.5 Output Panel

Under the output Panel, there are two tabs; Events tab and ANT Messages tab. The Events tab displays the time-stamped simulator events. The ANT Messages tab shows the raw ANT data messages that are being transmitted and received along with a timestamp. For details on the ANT messages, please refer the ANT document profiles.

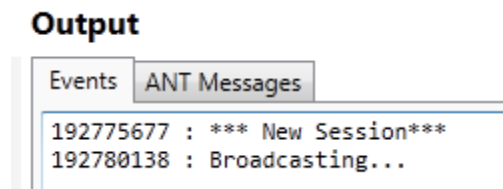


Figure 2-6. Output Panel

If steps are followed correctly, the events tab in the output panel should look similar to Figure 2-6. Output Panel

2.2 Simulating Bike Cadence Sensor

The following section is a description of how to simulate a bike cadence display. The steps to simulate the bike cadence display are similar to the steps required to setup the bike cadence sensor.

2.2.1 Device Panel

Under the device panel, Dev0 should have bike cadence sensor listed below it. This indicates that the bike cadence sensor will be using Dev0. Because a single device can not transmit and receive at the exact same time, another device is needed for a bike cadence display simulator.

Click on the add simulator button under the Dev1.

2.2.2 Add Simulator Window

Similar to the first time, after clicking the Add Simulator button, the Add Simulator window will pop up. The drop-down list displays a list of device profiles.

Select the Bike Cadence Display option from the drop-down list.

2.2.3 Action Panel

Click on the TurnOn button in the action panel.

2.2.4 Output Panel

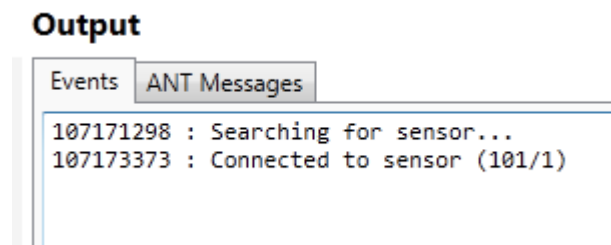


Figure 2-7. Connected to sensor.

The Events tab under the Output panel should indicate that it is searching for sensor. If steps are followed correctly, the display simulator should have found and connected to a sensor.

For other profiles, follow the same steps and simply replace the display and sensor with the matching display and sensor.

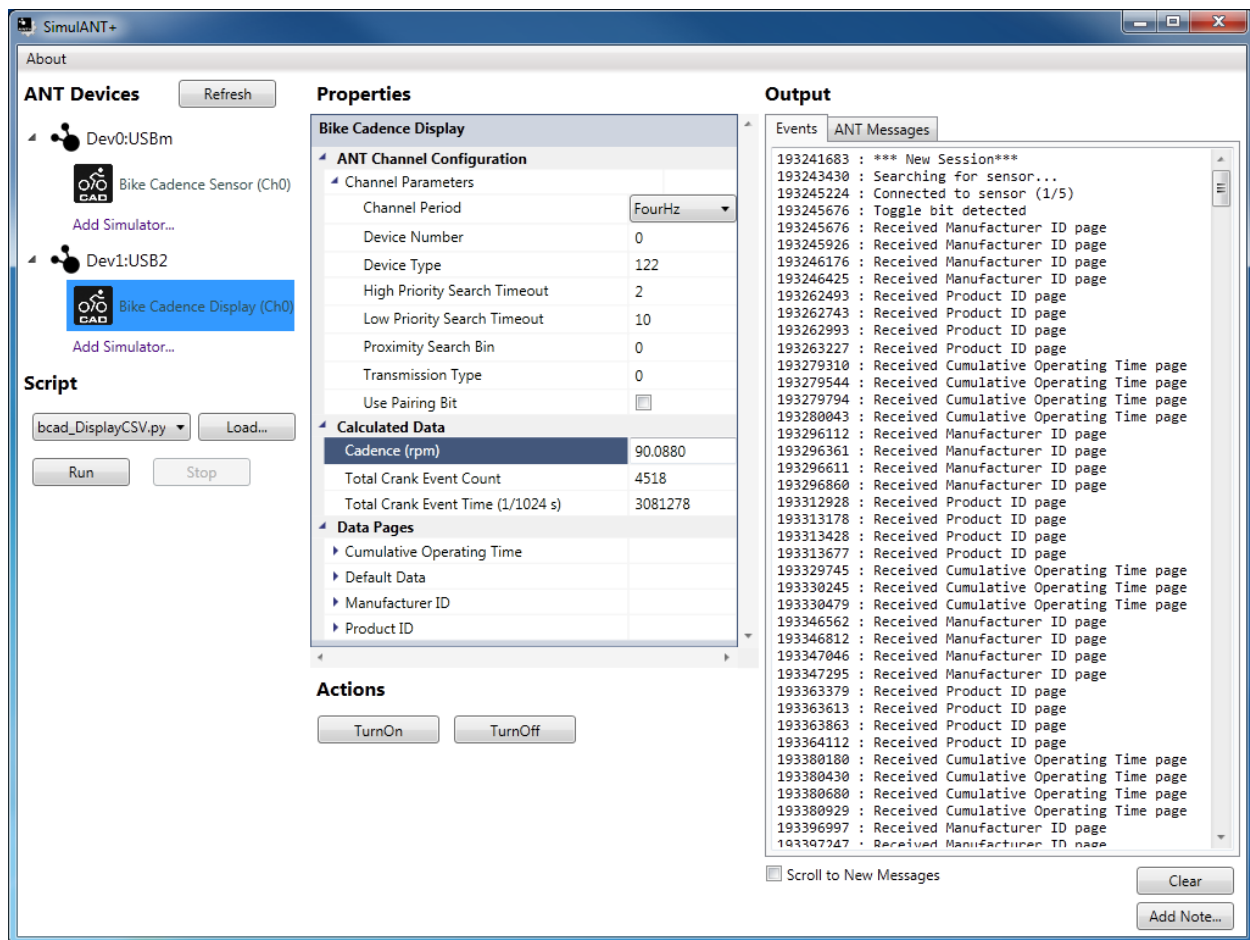


Figure 2-8. Bike Cadence Display

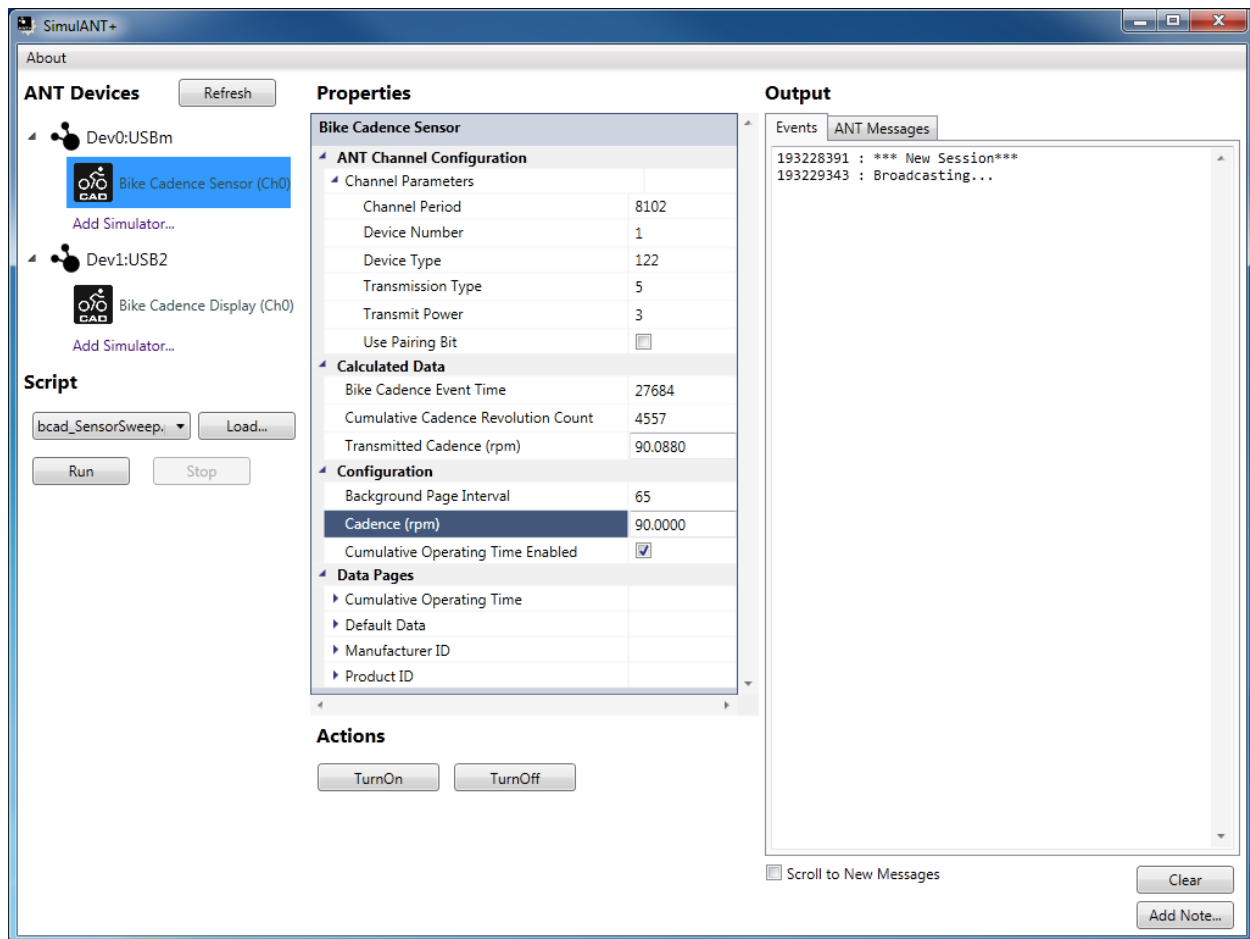


Figure 2-9. Bike Cadence Sensor

3 Script Panel

The Script panel is located below the Devices panel. Scripting is a feature designed to provide greater flexibility when using a simulator. To run a script to control a specific simulator, either select the script from the drop-down list or click on the load button. The drop-down list shows a list of scripts available for that profile in the Script subfolder. After clicking on the load button, a standard open window will pop-up. After selecting the desired script, click on the Run button.

For more information on scripting, refer to the "SimulANT+ Scripting Interface" help file.