



Stimulation Mode



Application Note



www.agito-akribis.com

Member of Akribis Systems group

Revision History

Version	Description	Date
1.2	Added the controller simulation note.	03 February 2026
1.1	Typo Corrections.	18 October 2022
1.0	Initial Release.	08 September 2022

Contact Information

Manufacturer Agito Akribis Systems Ltd., Member of Akribis Systems Group
Address 56 Serangoon North Avenue 4 Singapore 555851
Telephone +65 6484 3357
Website www.agito-akribis.com

Copyright Notice

©2026 Agito Akribis Systems Ltd.

All rights reserved. This work may not be edited in any form or by any means without written permission of Agito Akribis Systems Ltd.

Products Rights

AGDx, AGCx, AGMx, AGAx, AGIx, and AGLx are products designed by Agito Akribis Systems Ltd. in Israel. Sales of the products are licensed to Akribis Systems Pte Ltd. under intercompany license agreement.

Agito Akribis Systems Ltd. has full rights to distribute above products worldwide.

Disclaimer

This product documentation was accurate and reliable at the time of its release.

Agito Akribis Systems Ltd. reserves the right to change the specifications of the product described in this manual without notice at any time.

Trademarks

Agito PCSuite is a trademark of Agito Akribis Systems Ltd..

Warranty

This product is warranted to be free of defects in material and workmanship and conforms to the specifications listed in this manual, for a period of 12 months from the shipment date from factory.

Contents

1	Introduction	4
1.1	Background	4
1.2	Scope	4
2	Setup	5
2.1	Motor Simulation Required Setup	5
2.2	Controller Simulation Required Setup	5
3	Simulation Mode	6
3.1	Motor Simulation	6
3.2	Controller Simulation	7

1 Introduction

1.1 Background

In setting up a system, it can be risky to test new code or implementations if the system is mechanically fragile or has expensive equipment. In certain cases, the project might demand the development of the software even before the mechanical stage/ motors are even purchased.

At times, a developer might want to refer to certain parameters off-site without the controller beside.

In such cases, it would be convenient to be able to simulate the environment and continue usage with a partial system (without motor, or without controller).

1.2 Scope

There are two main modes of simulation or offline usage.

The first mode is where the user has a computer and controller but no motor. But he would like to try out the features to 'move' the motors. In such a case, it is possible to use a simulation motor.

The second mode is where the user does not have a controller with him, but he would like to write a user program or to look at the PCSuite GUI / parameters.

This application note seeks to explain how to set up and use the controller and PCSuite in the above situations.

2 Setup

2.1 Motor Simulation Required Setup

In the event that the user has access to a controller but not motors.

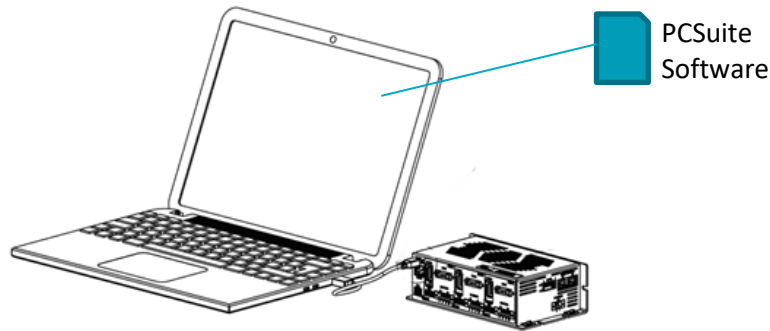


Figure 1. Motor Simulation Setup

The user will need to have Agito PCSuite software installed. The controller can be connected over ethernet or USB. It is always recommended to use an ethernet connection as the communication is faster.

2.2 Controller Simulation Required Setup

In the event that the user does not have access to the controller.

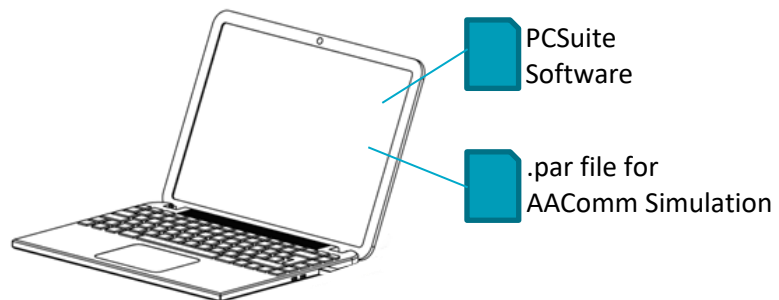


Figure 2. Controller Simulation Setup

The user will need to have Agito PCSuite software installed and also have a .par file that was exported from the controller. Please request for the default .par file there was no opportunity to export this file from the controller.

3 Simulation Mode

3.1 Motor Simulation

Motor simulation is a useful tool to test features without having physical motors. It is often used to verify the process automation before including the motors. This reduces the risk of damaging the system, in event that there are bugs in the code. It is also extremely useful for continuing the development of the system even before it is built.

In a normal system, the position feedback (Pos) is read through the encoder and passed back to the control loop to be compared to the commanded position reference (PosRef). In motor simulation, the controller assumes that Pos=PosRef and that the motion is following perfectly. In motor simulation mode, there will not be any current output to the motors, even if they are connected.

Most other features will work as per normal, with exception those involving actual encoder feedback or current output. For example, it will be possible to test CNC Motion to ensure that the segments are downloaded and that the trajectories are as intended. However, it will not be possible to do position event triggering or force control as those will depend on actual feedback and output.



To activate Motor Simulation mode, under the  tab, go the  page. Configure the motor type to 5 – Simulation.

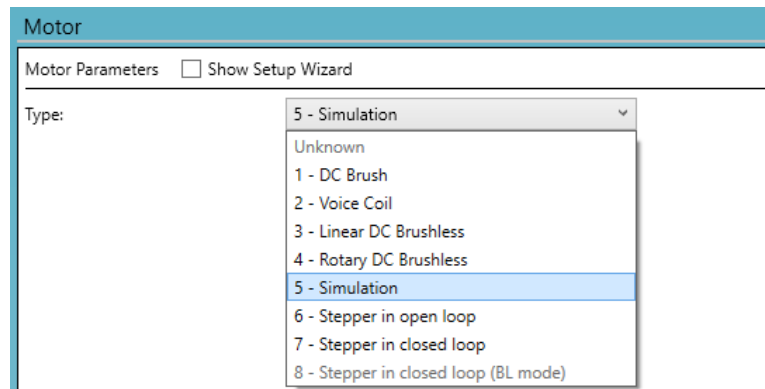


Figure 3. Motor Simulation Configuration

3.2 Controller Simulation

Controller simulation is useful when the user does not have access to a controller. This mode allows access to the GUI which will usually be greyed out when no controller is connected.

In this mode, features tied to PCSuite can still be used. For example, in simulation mode, the user will be able to configure their Homing sequence and save it to the computer, and send it to another person for use. Likewise, a .acnc sequence can be configured and saved.

Especially used often, is the IDE+ environment. In controller simulation mode, the controller will be able to check against the parameter file for keywords and compile code.

Features that run on the controller, for example, motion profile generation will not be accessible. So, thing like point-to-point motion will not be available even if you set the simulated controller to use simulated motors.

A .par file is required to use PCSuite in controller simulation mode. The following steps explain how to save such a file.

Firstly, connect an actual controller to the computer and establish a connection. Next, navigate to



tab and then



page. Ensure that



For AACommServer 'Simulation' is checked. Then

upload the parameters file to a locatin in your computer. This will create a virtual image of the controller and parameters as configured at that point of time.

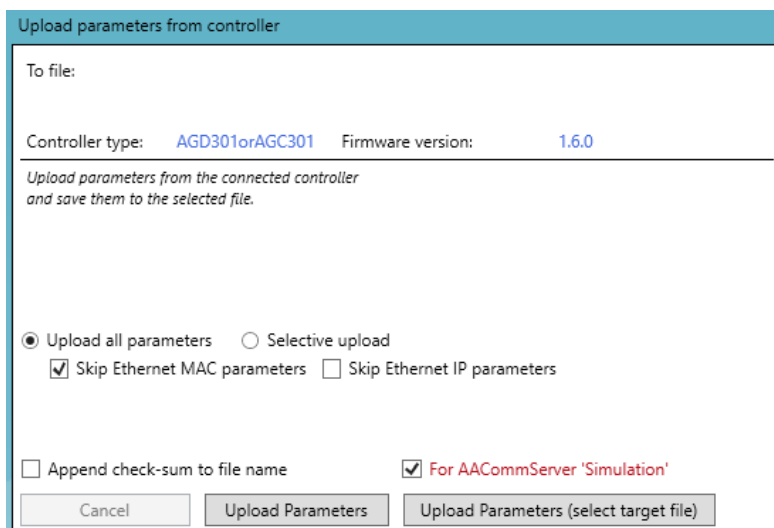


Figure 4. Save .par File for Controller Simulation

Controller Simulation

With the .par file, a connection can be established without a physical controller. The following steps explain how to setup a connection in simulation mode.

Firstly, launch PCSuite. This will automatically launch AACommServer in the background. From the bottom right corner, bring up the icon tray, you will see AACommServer running in the background. Double click on the icon to bring out the AACommServer Window.

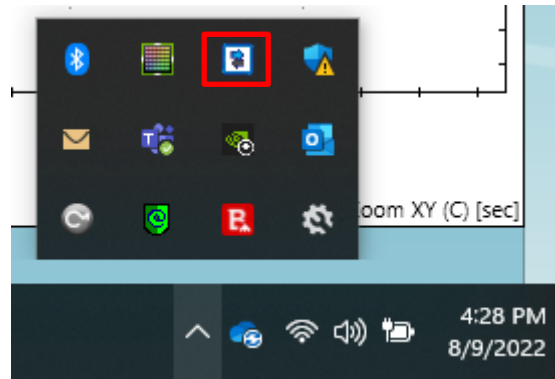


Figure 5. AACommServer Icon Tray

Click on the checkbox Allow simulation and then browse to the .par file.

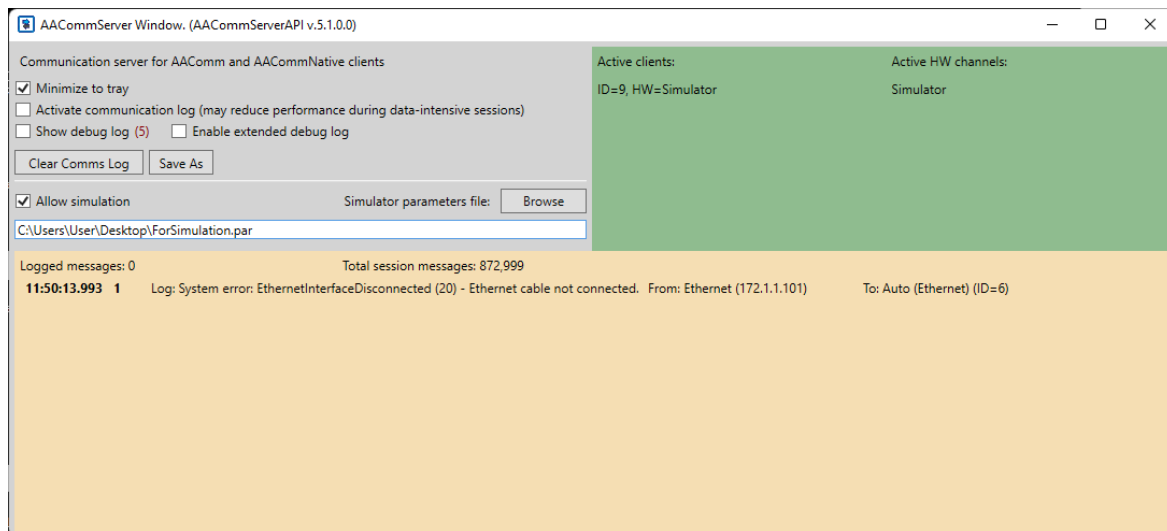


Figure 6. AACommServer Window



Next, in PCSuite, navigate to the **MANAGE** tab and then the **CONN** page. On the left of the page, define the connection name, controller type and communication type. The connection name is up to the user. The controller type has to be the same type as the controller from which the .par file was generated from. The communication type will be **Simulator**. Once configured, click on **Add**.

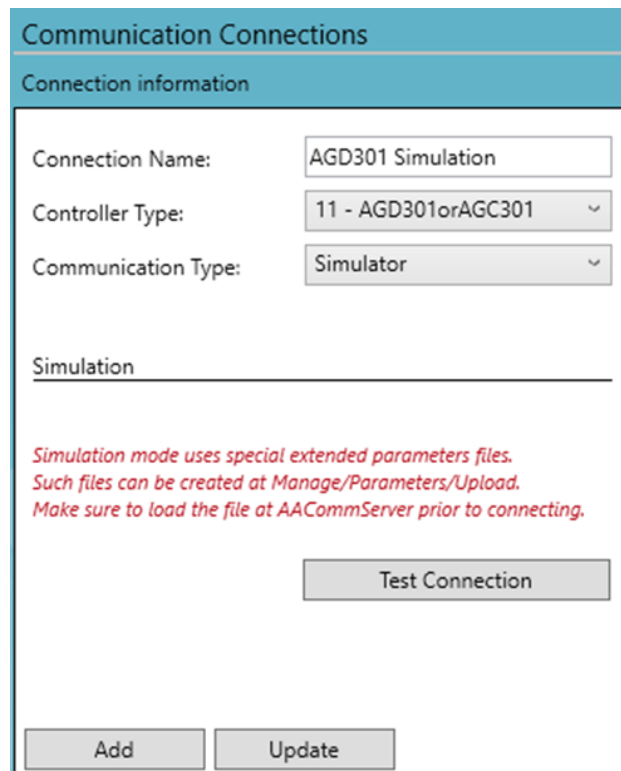


Figure 7. Connection Window – Add Simulator Connection

Once done, you can connect to a simulator controller to use PCSuite.

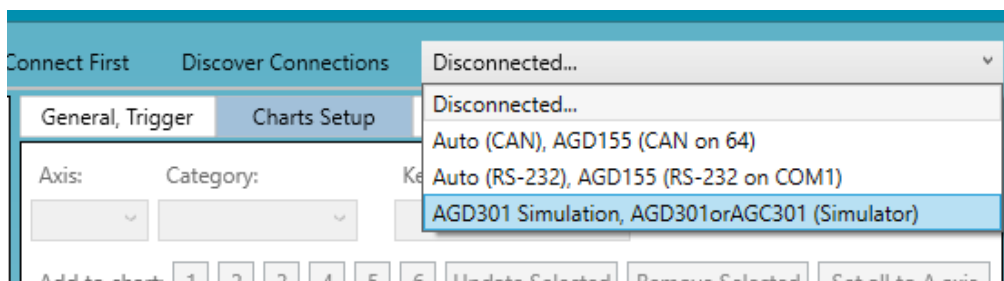


Figure 8. Connection – Connect to Simulator



Note

When setting up the simulation on a new PC that has not previously been connected to the controller, copy the directory **\Documents\PCSuite\ApplicationData** to the new PC in case the simulation connection fails.

