

**Autonomous Vehicles Research Studio**

Setup Guide – Software and QUARC Testing

Logo

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# MATLAB Licensing and Toolboxes

The PC already comes with all the required software installed and configured, as shown in table 1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Software** | **Version QDrone 1 Qbot 2/2e** | **Version QDrone 2** | **Installed?** | **Licensed?** |
| MATLAB/Simulink | R2019a | R2023a | ✅ | Icon  Description automatically generated |
| QUARC | 2020 SP1 | 2023 | ✅ | ✅ |
| Visual Studio Community Compiler | 2017 | 2022 | ✅ | ✅ |
| Motive | 2.0 | 2.x | ✅ | ✅ |
| Bonjour for Windows | 2.0.2+ | 2.0.2+ | ✅ | N/A |

Table 1: Software Summary

|  |  |
| --- | --- |
| caution.png | **IMPORTANT:** The MATLAB/Simulink license on the ground station supplied is a **trial** license only valid for 30 days. The end-user **must** acquire and configure the appropriate MATLAB/Simulink license. Please contact the MathWorks representative in your region or your IT department. |

Please check if your MATLAB/Simulink versions are **compatible** with the Quanser QUARC software (see the QUARC documentation or Compatibility Table) and ensure that your MATLAB/Simulink license includes:

1. MATLAB Coder
2. Simulink Coder
3. Control Systems Toolbox

**Note:** Depending on MATLAB configuration on your system you may be using the default date/time format. It is recommended to use uuuu-MM-dd HH:mm:ss as the “**Default date and time format**” which can be found under MATLAB Preferences/Command Window.

**A screenshot of a computer

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Figure 1: MATLAB date and time settings

# Checkpoint – Sine Scope Demo

|  |  |
| --- | --- |
| 1. Open the MATLAB version installed on your computer. 2. In your **MATLAB Command Window**, type   >> ver  Make sure that the list includes:  Quanser Real-Time Control (QUARC)   1. In the **MATLAB Command Window**, type   >> qc\_show\_demos   1. In the **QUARC Examples Help** page, click on the QUARC Sine and Scope Demo under **Basic Features**. 2. Click on **Open this Model** on the top right of the page, which opens a Simulink/QUARC model. 3. In the model that loads, click on the **HARDWARE** tab on the top menu and click the green play button (**Monitor & Tune**). It should build and start the model. 4. The open **Scope** should display a sine wave in real time (Figure 2). If the Scope is not opened, double click it to see the sine wave. | Graphical user interface, chart  Description automatically generated Figure 2: Scope output |
| This completes the checkpoint task and confirms that your MATLAB/Simulink/QUARC software is running successfully. If you encounter any errors, make sure that all the steps prior to this checkpoint have been followed. If further issues persist, please contact Quanser technical support (tech@quanser.com). | |

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