

# Autonomous Vehicles Research Studio

Setup Guide – Software and QUARC Testing

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For more information on the solutions Quanser Inc. offers,  
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#### Waste Electrical and Electronic Equipment (WEEE)



This symbol indicates that waste products must be disposed of separately from municipal household waste, according to Directive 2002/96/EC of the European Parliament and the Council on waste electrical and electronic equipment (WEEE). All products at the end of their life cycle must be sent to a WEEE collection and recycling center. Proper WEEE disposal reduces the environmental impact and the risk to human health due to potentially hazardous substances used in such equipment. Your cooperation in proper WEEE disposal will contribute to the effective usage of natural resources.

This product meets the essential requirements of applicable European Directives as follows:

**CE Compliance** 

- 2006/95/EC; Low-Voltage Directive (safety)
- 2004/108/EC; Electromagnetic Compatibility Directive (EMC)

**Warning:** This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.



**This equipment is designed to be used for educational and research purposes and is not intended for use by the public.** The user is responsible to ensure that the equipment will be used by technically qualified personnel only. While the end-effector board provides connections for external user devices, users are responsible for certifying any modifications or additions they make to the default configuration.

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## A. 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		
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



**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 yyyy-MM-dd HH:mm:ss as the "**Default date and time format**" which can be found under MATLAB Preferences/Command Window.

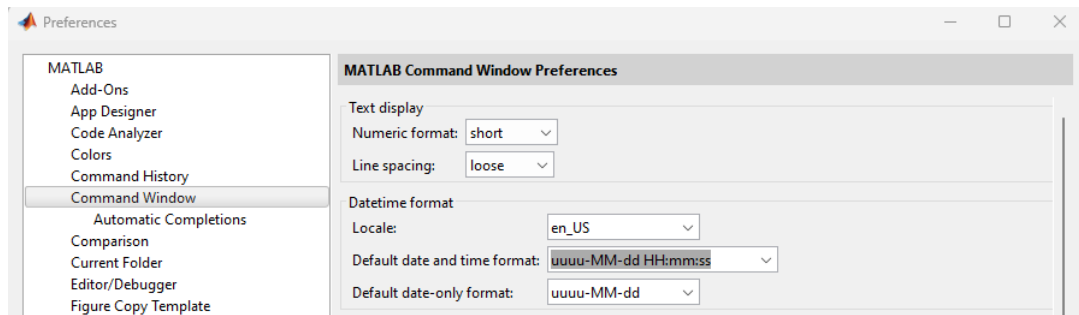


Figure 1: MATLAB date and time settings

## B. 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)
3. In the **MATLAB Command Window**, type `>> qc_show_demos`
4. In the **QUARC Examples Help** page, click on the QUARC Sine and Scope Demo under **Basic Features**.
5. Click on **Open this Model** on the top right of the page, which opens a Simulink/QUARC model.
6. 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.
7. 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.

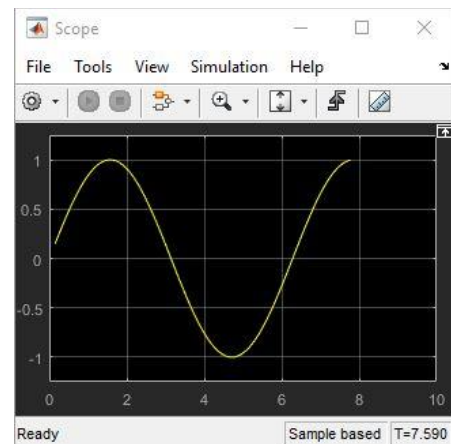


Figure 2: Scope output

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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