softMC Simulator

Installation Guide

Revision 1.2

SERVOTRONIX
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Revision History

Doc.Rev.	Date	Remarks
1.2	Dec 2017	Update softMC link use softMC 3
1.1	July 2016	Minor updates
1.0	Jan. 2015	Initial release

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Contact Information

Servotronix Motion Control Ltd.
21C Yagia Kapayim Street
Petach Tikva 49130, Israel
Tel: +972 (3) 927 3800
Fax: +972 (3) 922 8075
Website: www.servotronix.com

Technical Support

If you need assistance with the installation and configuration of the softMC controller, contact Servotronix technical support: tech.support@servotronix.com

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1 Introduction

softMC Simulator is a software package that allows you to work on a simulated softMC using only a PC, without requiring any other hardware.

This document describes the procedure for installing the softMC Simulator.

The installation has three components:

- **VirtualBox**. An Oracle product, this is a cross-platform virtualization application for x86-based systems.

  Cross-platform means it installs on Windows, Linux, Mac OS X and Solaris x86 computers. Virtualization software means that you can create and run multiple virtual machines (VM), running different operating systems, on the same computer at the same time.

  Since the softMC is a Linux-based system, the Oracle VirtualBox allows you to simulate the softMC on a PC.

- **softMC Controller Simulator** (called **softMC SIM**). This is the virtual machine that simulates the softMC.

- **ControlStudio** software by Servotronix. This is a development tool for motion applications. It contains a programming editor, data recorder, debugger and monitoring tools.

  This is the same software that is used with actual hardware. If it is already installed on your PC, you do not need to reinstall.

2 Installation

VirtualBox Download and Install

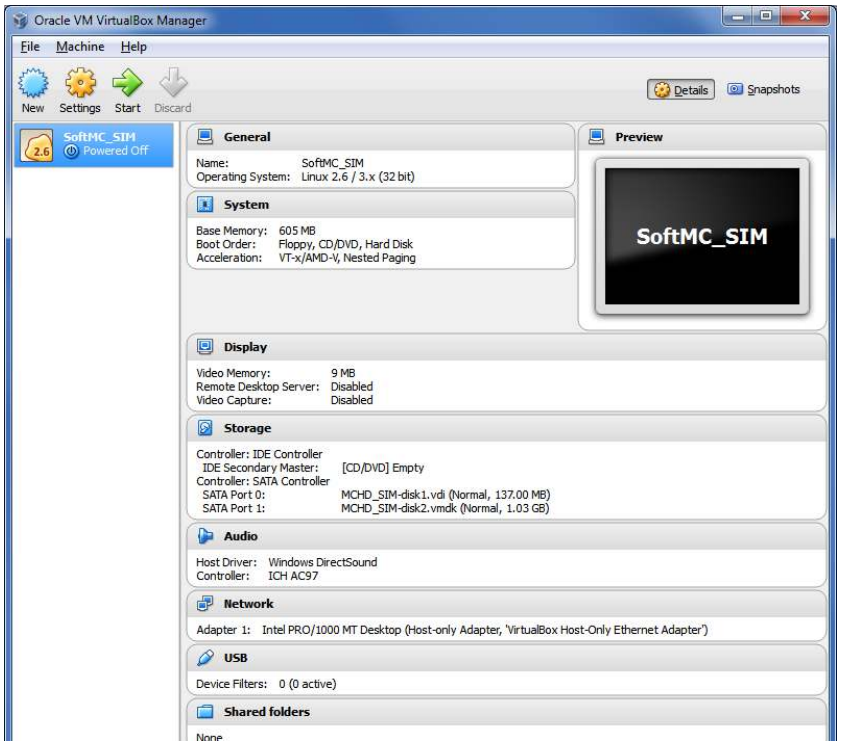
1. Go to the VirtualBox Download page: https://www.virtualbox.org/wiki/Downloads
2. From the list of VirtualBox platform packages, download the install package suitable for your operation system; for example **VirtualBox X.x.xx for Windows hosts.**
3. Install the VirtualBox.

   If the VM VirtualBox Manager opens at the end of the installation, close it before continuing to the next stage of the installation.

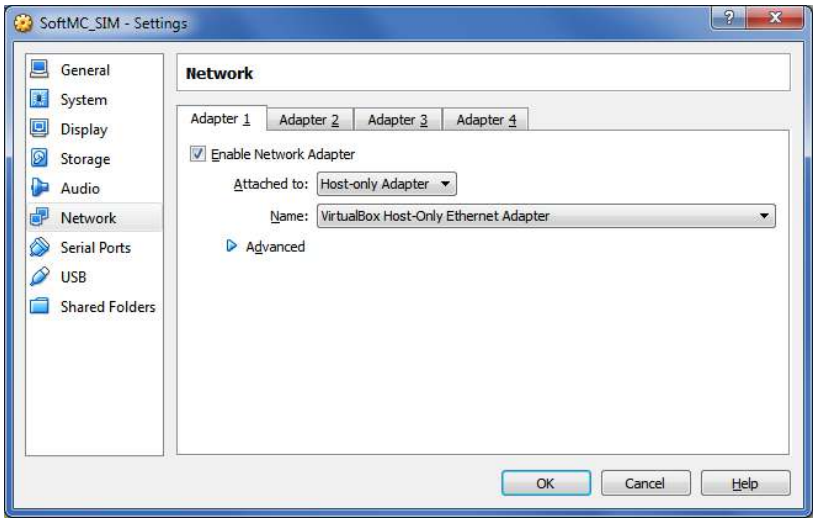
Simulator Download and Install

1. Go the softMC Simulator page on the Servotronix website: http://www.servotronix.com/product/softmc3-compact-motion-controller/ Note: download same simulator either from softMC 3 or softMC 7
2. In the Downloads section, select the **Simulation** tab, and download the compressed Simulator installation file.
3. Extract **softMC_SIM.7z** to a separate folder.
4. Double-click on the file **softMC_SIM.vbox**.
5. The Oracle VM VirtualBox Manager window opens.

   A virtual machine named **softMC SIM** is now listed in the left pane.

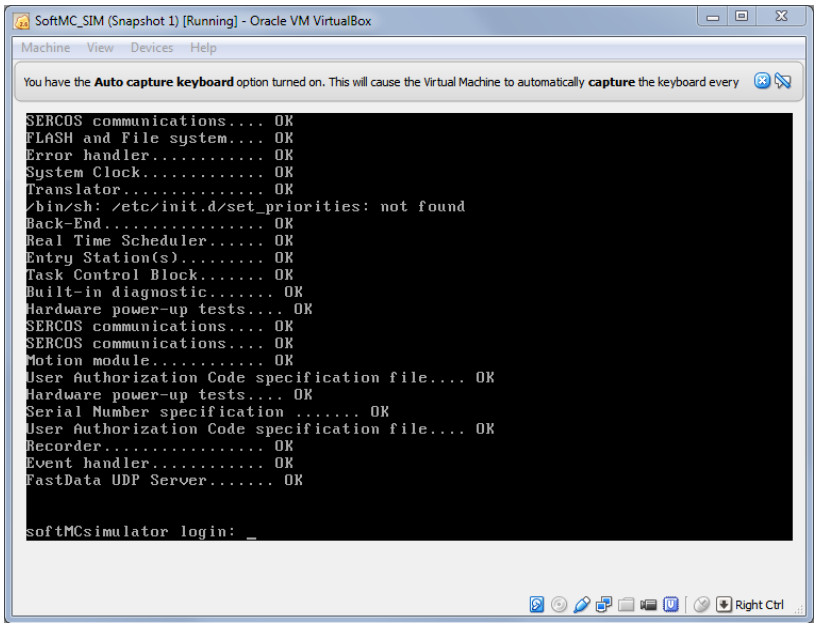


6. If **softMC SIM** is the only virtual machine in the list, it is automatically selected. If not, click to select.
7. Click **Settings**, then select **Network**.
8. In the Adapter 1 tab, make sure the **Host-only Adapter** is selected, as shown in the figure below.
9. Click **OK** to close the Settings dialog box.



10. Activate the virtual softMC: click the green Start button on the toolbar.

    The virtual machine starts and the softMC boot sequence runs.



At the end of the boot sequence, a prompt to login may appear. You can ignore this prompt; no login is required.

The virtual softMC is now ready for use with ControlStudio.

Note: *If the virtual machine does not open, you should contact your IT support, and ask to enable Virtualization in your PC BIOS.*

11. You can minimize the VM VirtualBox window, but do not close it. You can also minimize the VM VirtualBox Manager window.

ControlStudio Download and Install

If ControlStudio is not already installed, do the following.

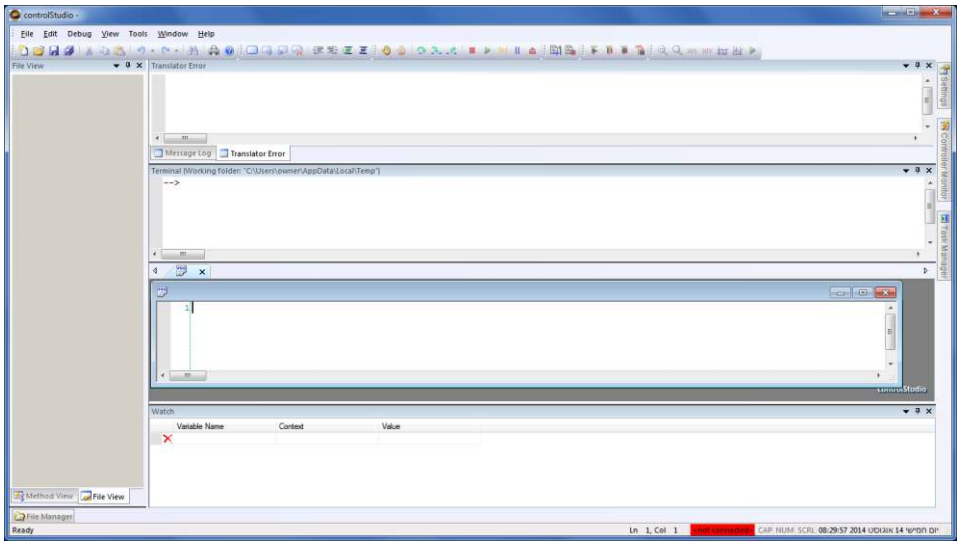
1. Go the softMC page on the Servotronix website: http://www.servotronix.com/product/softmc3-compact-motion-controller/
Note: download same ControlStudio either from softMC 3 or softMC 7

2. In the Downloads section, select the Software tab, and download the compressed **softMC ControlStudio GUI** installation file (ControlStudio-GUI.zip).

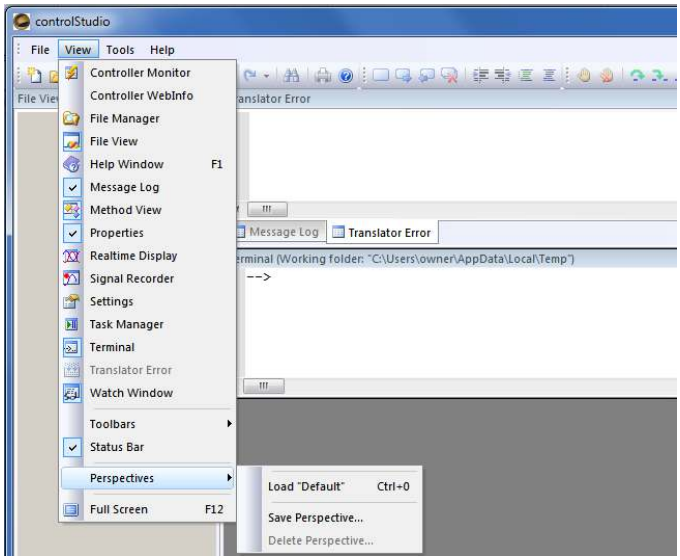
3. Run the **ControlStudioSetup** executable file to install ControlStudio on your computer.

4. When installation is complete, start ControlStudio from the software icon on your desktop.

ControlStudio opens.

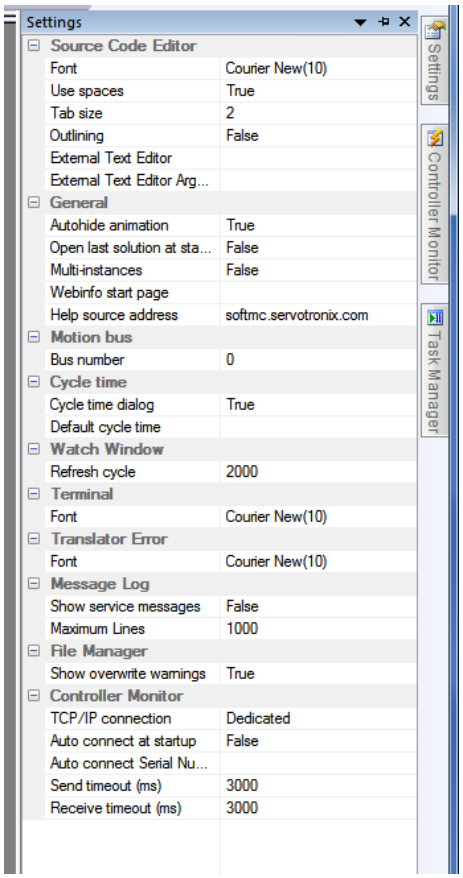


Note: If ControlStudio opens without Terminal and/or programming panes, go to the View menu, and select Perspectives > Load Default.

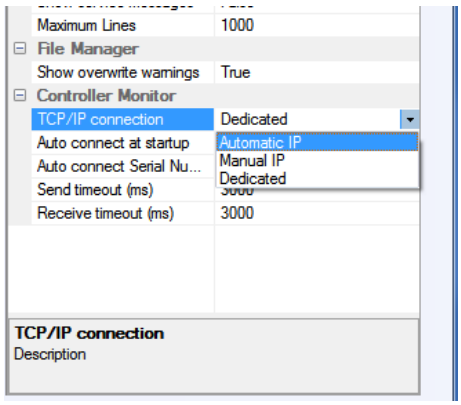


3 ControlStudio Simulator Setup

1. Launch ControlStudio if it is not already open.
2. Hover the mouse cursor on the **Settings** tab at the upper right of the screen. The Settings pane slides open.

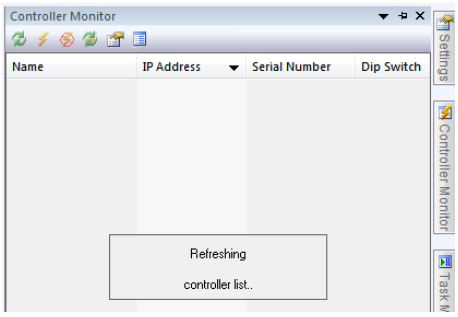


3. Set the TCP/IP Connection to **Automatic IP**.

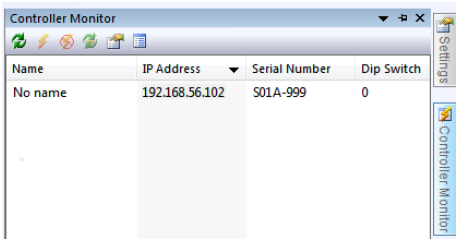


4. Hover the mouse cursor on the **Controller Monitor** tab at the right side of the screen. The Controller Monitor pane slides open.

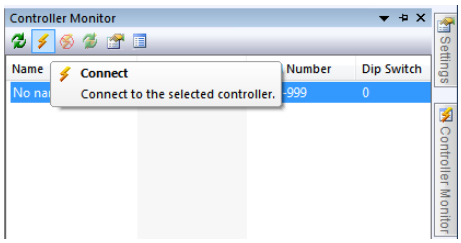
5. Click the **Refresh** (controller list) button.



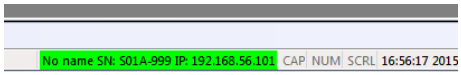
The simulated softMC appears in the pane as **No name** and/or serial number **S01A-999**.



6. Select the softMC [No name], and then click the **Connect** button.



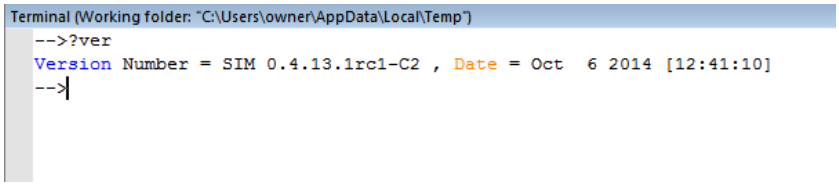
Once Control Studio is connected to the softMC, the name and IP of the softMC are highlighted in green at the bottom of the screen.



7. You can now control and query the simulated softMC.

   For example, go to the Terminal window, and verify the softMC firmware version:

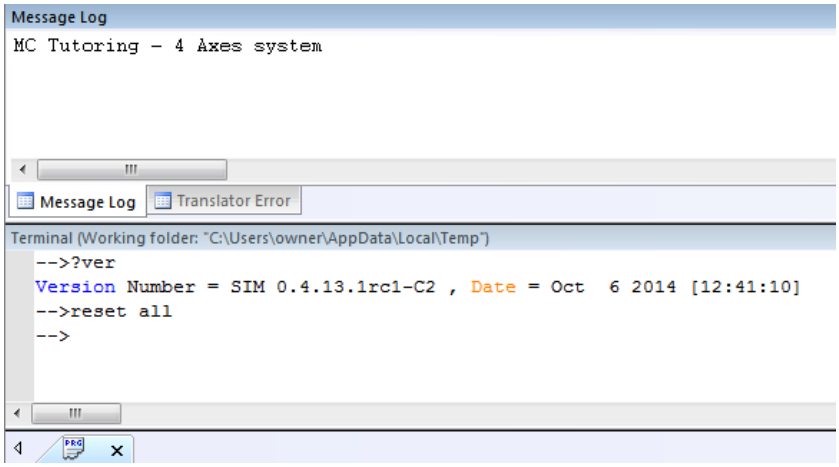
   At the --> prompt, enter: **?ver**



8. Again in Terminal, enter the command: **reset all**

Reset all unloads all currently loaded program and library files, and runs the CONFIG.PRG configuration file.

In the softMC Simulator, the configuration file defines a system with 4 axes.



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