

### Upgrade instructions for SimSteering firmware.

#### Caution:

Upgrading the firmware may render the steering system unusable if the process is not followed carefully.

Do not turn the power off or disconnect the USB during the upgrade process.

Disconnect any steering wheel cables or other devices that could be damaged by sudden rotation of the steering wheel.

Keep hands away from the steering wheel during the upgrade process.

Make sure the steering controller is connected directly to the computer via the shortest USB link possible, remove any USB hubs or USB extenders. If possible connect the control box to a USB 2.0 port.

The firmware can be reverted to an earlier version if needed.

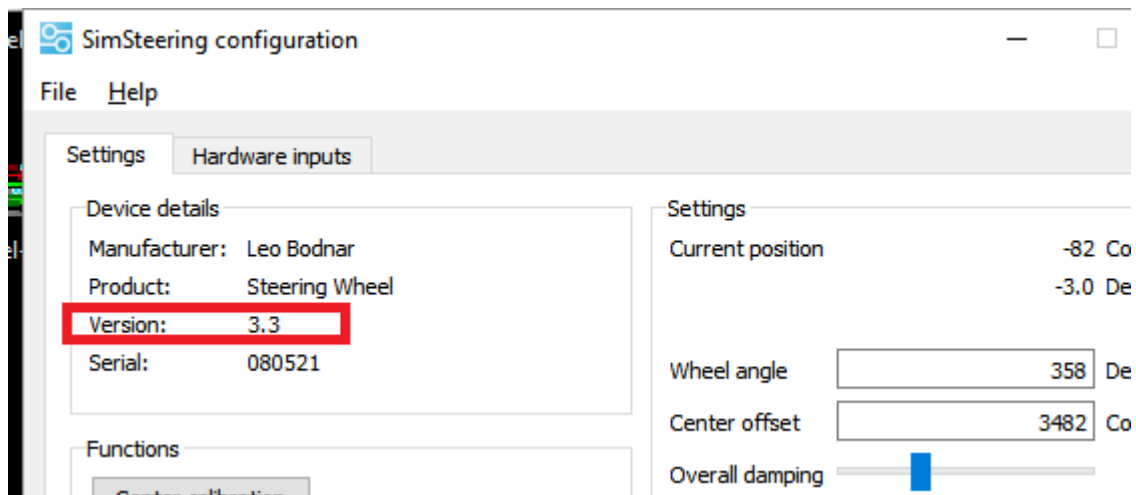
Settings can be lost during this process, ( centre position, damping levels etc. ) make sure you have them backed up.

#### 1. Check the existing firmware version.

Open the SimSteering control software, the version number listed is the firmware version installed on the control board.

The latest SimSteering control software can be found here.

<http://www.simsteering.com/downloads.html>



## 2. Download latest firmware version.

The latest software and firmware can be found on our web sites download section.

<http://www.simsteering.com/downloads.html>

Download and extract the current firmware version ( 3.8 at the time of writing this guide )

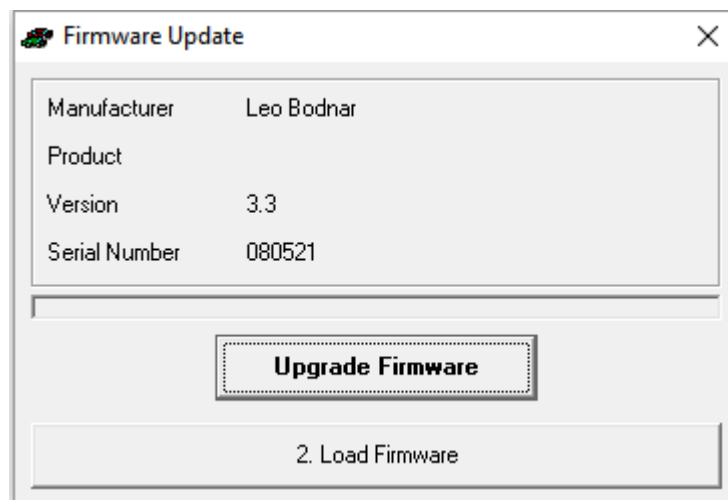
## 3. Update the firmware.

There are two controllers on the SimSteering system:

- The USB host interface ( SimSteering )
- The servo amplifier controller.

Run the file SimSteeringFirmware to update the USB host interface first.

Click the Upgrade Firmware button. Wait for the process to finish. ( roughly 45 seconds )



### Note :

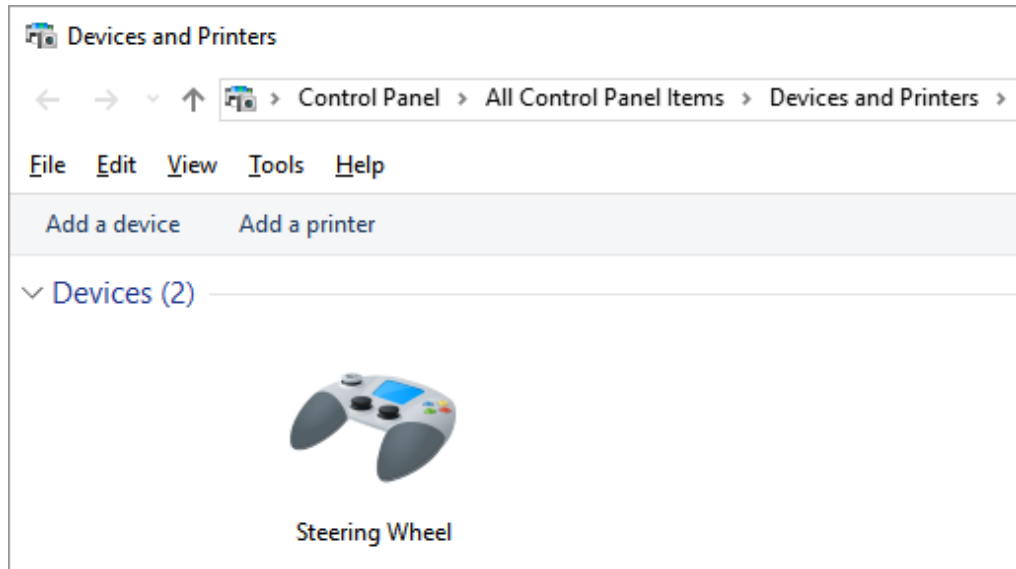
**Some Antivirus software can cause problems with the firmware update program. Please temporarily disable these during the update process if you are experiencing problems.**

**Please also ensure you are running the update program with admin access.**

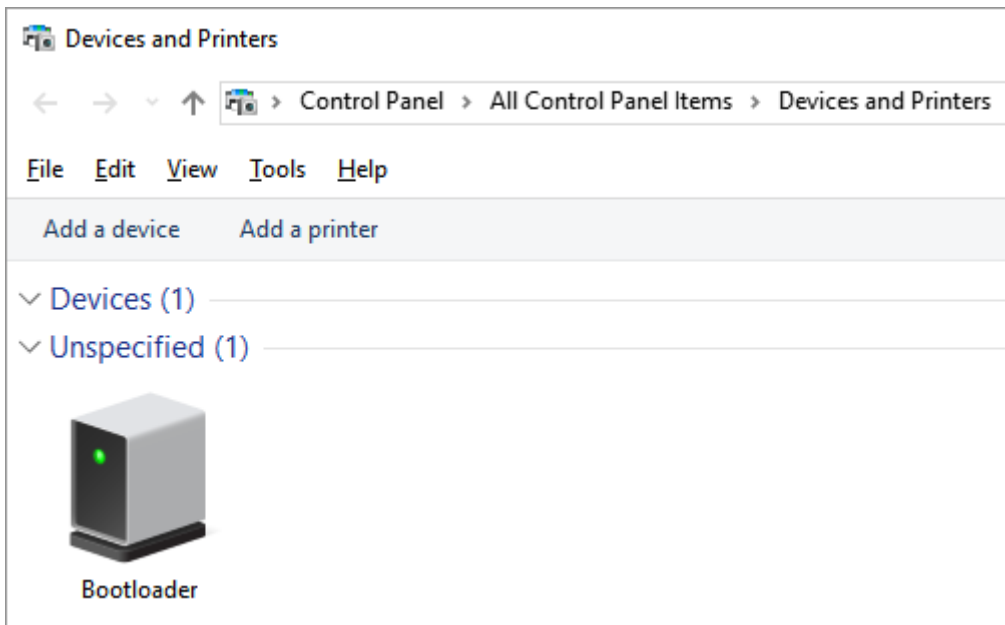
Check the SteeringSystem system is being shown in Devices and Printers. If it is shown as 'Bootloader' try the process again and press the Load Firmware button to force the firmware upgrade.

If it is stuck in bootloader mode and you have tried the above contact [support@leobodnar.com](mailto:support@leobodnar.com)

**Normal operation :**



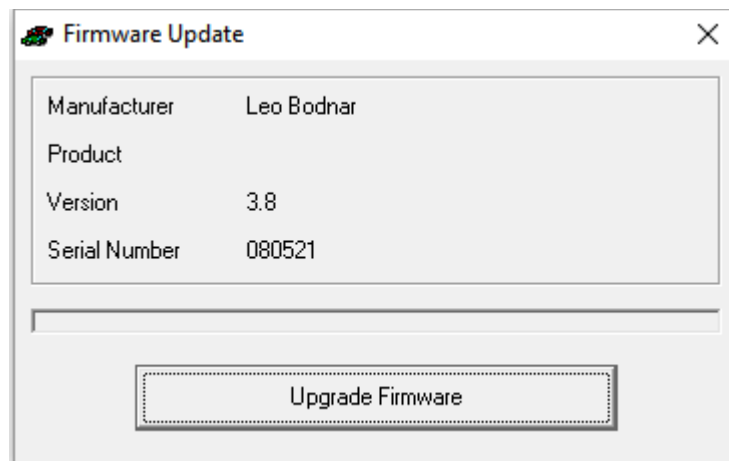
**In Bootloader mode ( Failsafe mode ) - try to flash the firmware again.**



#### 4. Upgrade the servo amp firmware

The upgrade process for the servo amplifier firmware is a very similar process but often causes more problems with failed updates. You can skip this step if there is no new update for the amplifier firmware.

Click the update firmware button and wait for the update to finish.



#### Note :

Use the SimSteering diagnostics program to check the firmware version on the amplifier. If the version is reported as 0.0 the update has failed and the process must be repeated.

#### 5. Check everything is working.

Check the steering is working as normal. The position should change when the wheel or motor shaft is moved and the end stops should be working. ( this is a good sign everything is working normally with the system )

**SimSteering Diagnostics Program showing Amplifier version 3.8 installed**

Simsteering v2 diagnostics

<b>Device details</b>		USB errors	0
Manufacturer	Leo Bodnar	SPI errors	0
Product	Steering Wheel	Amp FW ver	3.8
Version	3.8	Amp HW ver	4.3
Serial Number	080521	Amp S/N	2047

Current position		counts
	-1.404	degrees
Centre offset	3481	counts

Overall damping	29	
Overall inertia	23	
Overall friction	28	
Stops (each side)	4973	counts
Stops stiffness	40	
Stops damping	4	
Centering spring	20	

Motor filter	1
Input filter	1

All Effects scale	50	%
Damper Effect scale	100	%

Motor model	53
E-STOP	OK

SimSteering Diagnostics Program showing NO Amplifier firmware installed – retry the upgrade process.

Simsteering v2 diagnostics

<b>Device details</b>		USB errors	0
Manufacturer	Leo Bodnar	SPI errors	2
Product	Steering Wheel	Amp FW ver	0.0
Version	3.8	Amp HW ver	0.0
Serial Number	080521	Amp S/N	0

Current position	counts	Motor model	0
	605749.248 degrees	E-STOP	OK
Centre offset	3481 counts		

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Overall damping	29
Overall inertia	23
Overall friction	28
Stops (each side)	4973 counts
Stops stiffness	40
Stops damping	4
Centering spring	20

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Motor filter	1
Input filter	1

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All Effects scale	50 %
Damper Effect scale	100 %