20-00643

HYDROFOILER SL3

SOFTWARE UPGRADE INSTRUCTIONS

This process is for Hydrofoiler SL3 using. ECS software V0.60 and below, or Display-Throttle software V0.29 and below.

If you have these versions installed on your Hydrofoiler SL3 then it is essential that you upgrade your SL3 software.

Introduction

This document provides instructions to upgrade the Hydrofoiler SL3 software.

This is a major software release fixing a severe bug present in both the ECS and the Display-Throttle modules, which if it occurred caused the corruption or loss of the software in either module or rendering the SL3 inoperable.

The bug affects.

- ECS application software versions V0.60 and below.
- Display-Throttle application software versions V0.29 and below.

This process also installs the latest ECS and Display-Throttle bootloader software.

The whole process should take about ten minutes to complete.

You will need

- A PC running Windows 10 or 11.
- Your Hydrofoiler SL3 powered up with a **fully charged** battery.
- The SL3 PC APP Version V0.32 or V0.33 installed and running.
- The SL3 PC APP V0.3x documentation
- The latest SL3 software upgrade files.

The latest SL3 PC, upgrade software, and documentation can be downloaded from the Manta5 website.

Hydrofoiler SL3 Software - Manta5

Download the Hydrofoiler SL3 PC app user guide

Hydrofoiler SL3 PC app V0.3x guide

Following this upgrade, the Display-Throttle will need to be re-calibrated. Please download the Display-Throttle Calibration

instructions 001529 - Hydrofoiler SL3 Display-Throttle Calibration.pdf.

Initial Setup

- 1. Run the SL3 PC Application version V0.32 or V0.33. (Version V0.33 has its button icons arranged horizontally)
- 2. This will create a directory on your PC called "C:\Manta5\PC_App\software".
- 3. Copy the upgrade files obtained from the Manta5 website, into this directory.
 - Display-A000753-V31[S].bin
 - Display-B006370D-V105.bin
 - ECS-A000764-V73[S].bin
 - ECS-B006370B-V105.bin
- 4. Before starting the upgrade process. Please familiarise yourself with these instructions and the layout of the SL3 PC Application.
- 5. Follow these instructions carefully and you must upgrade the software exactly in the order given.

Process

Attach the battery to your Hydrofoiler SL3. Check that the Display-Throttle LCD is showing "**OFF**", and that the Bluetooth icon is flashing.

Follow the instructions in the SL3 PC App Guide document to connect the SL3 to the PC App using Bluetooth.

You will need to give the SL3 a name, Manta5 recommend naming it with the last 7 characters of Display Throttle's serial number.



Checking the software version numbers

Once connected via Bluetooth, the SI3 PC application will show the Hydrofoiler SL3 software version numbers for the Display-Throttle unit and the ECS unit in the SL3 Information window shown below.

Manta5 PC APP	- 🗉 🗙
Manta5 SL3 PC Application	
Home	nantae
SL3 Status	SL3 Infomation
	SL3 Name: SL3
	Display Version: V0.28
	ECS Version: V0.52
	Total Ride Times(Min): 0
	SL3 Connection
	Connect to an SL3
	Update Software
	Update Software
	Download Datalogs
	Download Datalogs
Process: Finish Reading SL3 Info.	•
	Download Logs
	Erase datalogs in the bike after downloaded(Recommended)
Selected Comms: BLE Connection Status: Connected	

By double-clicking on either of the version numbers, you can access the Bootloader software version each unit.

After obtaining each of the software version numbers, please check the table below.

Upgrading of each software version should be done in the order shown in the table.

Order	Module	Current version in the SL3	Upgrade	Go to process
1	ECS	BL Version V0.14 (or below)	V1.05	Upgrade ECS Bootloader
2		FW Version V0.60 (or below)	V0.73	Upgrade ECS Application
3	Display-Throttle	BL Version V0.13 (or below)	V1.05	Upgrade Display-Throttle
				Bootloader
4		FW Version V0.29 (or below)	V0.31	Upgrade Display-Throttle
				Application

DO NOT UPGRADE THE APPLICATION BEFORE THE BOOTLOADER, THIS WILL CAUSE THE UNIT TO BECOME INOPERABLE AND THE UNIT WILL NEED TO BE RETURNED TO MANTAS FOR REPROGRAMMING.

Upgrade ECS Bootloader

This process IS NOT required if the ECS bootloader is already version V1.00 or higher. Please go to Upgrade ECS Application.

This process will erase the current ECS application software and upgrade the ECS bootloader software.

To start the upgrade, click the "Update Software" button.

Click 'Yes' for Update the ECS software and click "Press to Select".

	H A
Manta5 SL3 PC Application	antas vo.32
SL3 S Update the ECS Software? • Yes • No Please Select the ECS Software Press to Select C:Manta5\PC_App\software	SL3 Information SL3 Name: SL3 Display Version: V0.28 ECS Version: V0.52 Total Ride Times(Min): 0
Update the Display throttle Software?	SL3 Connection
	Update Software
Process: Connected	Download Datalogs
Calacted Commer DIE - Connection Station Connected	

Change the filename filter to "Bootloader Upgrader" and select the software file **ECS-B006370B-V105.bin**. Click "Open'.

Bootloade	r Upgrader (*B00	6370 ~
Open	Car	ncel

Click the "Confirm" button and the "Yes" button to start the upgrade.

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The progress bar will start to turn green.

The Hydrofoiler SL3 LCD will display "UPL".



* The Bluetooth icon may not show in some older versions of the software.

When the upgrade has finished the SL3 PC App attempts to read the application software version number, however this will fail because the ECS only contains the bootloader code.

The SL3 PC App will show,



Read Info fail, Please try re-Update related software.

This message can be ignored.

The Hydrofoiler SL3 LCD will display "E10". This can also be ignored.



Now go to Upgrade ECS Application.

Upgrade ECS Application

DO NOT start this process unless the ECS bootloader version is already V1.00 or higher.

This process will upgrade the ECS application software.

To start the upgrade, click the "Update Software" button.

Click 'Yes' for Update the ECS software and click "Press to Select".

Manta5 SL3 PC Application 000000000000000000000000000000000000	O Manta5 PC APP	- D ×
SL3 S Update the ECS Software? Ves No Please Solect the ECS Software Presto Selet C:MantaSPC_Apploathware Update the Display throttle Software? Ves No Process: Connected	Manta5 SL3 PC Application	mantas vo.32
Update the Display throttle Software? Yes Yes Update Software Update Software Update Software Update Software Download Datalogs Download Logs Download Logs	SL3 S Update the ECS Software? • Yes • No Please Select the ECS Software Press to Select C:\Manta5\PC_App\software	X SL3 Information SL3 Name: SL3 Display Version: V0.28 ECS Version: Unable to Read Total Ride Times(Min): Unable to Read
Update Software Update Software Update Software Download Datalogs Encess: Connected	Update the Display throttle Software?	SL3 Connection
Process: Connected Download Datalogs		Update Software
	Process: Connected	Download Datalogs
selected Comms: BLE Connection Status: Connected	Selected Comms: BLE Connection Status: Connected	

Change the filename filter to "ECS Software" and select the software file **ECS-A000764-V73[S].bin**. Click "Open'.



Click the "Confirm" button and the "Yes" button to start the upgrade.

The progress bar will start to turn green.

The Hydrofoiler SL3 LCD will display "UPL".



When the upgrade has finished The SL3 PC App will show **Finish Reading SL3 Info.**

The SL3 Information panel will show,



After 2 or 3 seconds, the Hydrofoiler SL3 LCD will display "**OFF**".



ECS upgrade is now complete. Now go to Upgrade Display-Throttle Bootloader.

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Upgrade Display-Throttle Bootloader

This process IS NOT required if the Display-Throttle bootloader is already version V1.00 or higher. Please go to Upgrade Display-Throttle Application.

This process will erase the Display-Throttle application software and upgrade the Display-Throttle bootloader software.

To start the upgrade, click the "Update Software" button.

Click 'Yes' for Update the Display-Throttle software and click "Press to Select".



Change the filename filter to "Bootloader Upgrader" and select the software file **Display-B006370D-V105.bin**. Click "Open'.



Click the "Confirm" button and the "Yes" button to start the upgrade.

The progress bar will start to turn green.

The Hydrofoiler SL3 display will show "**BTL**".



* In some older versions the screen may go blank

When the upgrade has finished the SL3 PC App attempts to read the application software version number, however this will fail because the Display-Throttle only contains the bootloader code.

The SL3 PC App will show,



Read Info fail, Please try re-Update related software.

This message can be ignored.



The Hydrofoiler SL3 LCD will continue to display "BTL".

Now go to Upgrade Display-Throttle Application.

Upgrade Display-Throttle Application

DO NOT start this process unless the Display bootloader version is V1.05.

This process will upgrade the Display-Throttle application software.

To start the upgrade, click the "Update Software" button.

Click 'Yes' for Update the Display-Throttle software and click "Press to Select".

Manta5 SL3 PC Application V0.3	MantaS PC APP	- 🗆 ×
SL3 S ^{Update} Update the ECS Software? • Yes • No Update the Display throttle Software? • Yes • No Please Select the Display software rests Select C:WantoSIPC_Apploothware Process: Connected	Manta5 SL3 PC Application	nantas ^{vo.32}
Update the Display throttle Software? • Yes • No Please Solect the Display software resto Solect C:Manta5VPC_Applootware C:Manta5VPC_Applootware Vestor Update Software Update Software Update Software Update Software Update Software	SL3 S ^{Update} Update the ECS Software? • Yes • No	× SL3 Infomation SL3 Name: Unable to Read Display Version: V0.00 ECS Version: Unable to Read Total Ride Times(Min): Unable to Read
Process: Connected Update Software Download Datalogs Download Datalogs	Update the Display throttle Software? • Yes • No Please Select the Display software C:Manta5\PC_App\software	SL3 Connection
Process: Connected Download Datalogs		Update Software
	Process: Connected	Download Datalogs
Selected Commis: BLE Connection Status: Connected	elected Comms: BLE Connection Status: Connected	

Change the filename filter to "Bootloader Upgrader" and select the software file **Display-A000753-V31[S].bin**. Click "Open'.

Display Software	(*000753*.bin* ~
Open	Cancel

Click the "Confirm" button and the "Yes" button to start the upgrade.

The progress bar will start to turn green.

The Hydrofoiler SL3 display will change from "btl" and will show "dLd".

The bars on the left-hand side of the LCD will increase as the download proceeds.



At the end of the software upgrade the LCD will show "Pro" and then show "CAL".



When the upgrade has finished The SL3 PC App will show **Finish Reading SL3 Info.** The SL3 Information panel will show,

The SL3 PC App will show,



Now go to Recalibrate Display-Throttle.

Recalibrate Display-Throttle

Due to the nature of this major upgrade, the Display-Throttle unit will require a re-calibration. Please follow the simple instructions in this document **001529 - Hydrofoiler SL3 Display-Throttle Calibration.pdf**.

The Display-Throttle LCD should now display "OFF".

The process is now complete and your Hydrofoiler SL3 will have the latest available software.

Module	Version
Bike Controller	V1.05
(ECS)	V0.73
Ride controller	V1.05
(Display)	V0.31

Revision History

Date	Version	Author	Change Notes
25/10/2023	1	Pete Ruddock	Initial
31/10/2023	1.1	Pete Ruddock	Added note regarding V0.33 of SL3 PC app. Added warning to upgrade code exactly in the correct order.