## **Orion2 Bootloader Recovery Software**

The Orion2 has a bootloader, meaning firmware can be loaded via software without requiring a Firmware Programmer. However, if the firmware upload process is interrupted, the device may lock, and the software will not connect. In such cases, you need the Spitronics Recovery software to install a starter program, allowing you to reload the firmware.

First, close all Spitronics or other product software to free the communication port (Comm Port). Open the <u>Spitronics Recovery Ver1.0.3 Software</u>. If it's not installed yet, unzip it on the desktop or in your Spitronics folder on the C: drive.

To manually put the Orion2 in Program mode, connect only the P1 connector and the USB cable to the device. **Do not switch the power on yet**. Take a sharp pint tweezer and short the 2 holes as shown in the schematic and photo below. Make sure you have the correct pins, as incorrect connections may damage the product, for which you will be responsible. Take care not to touch any other places on the PCB when you remove the tweezer.





Once the jumper is in place, switch the power on. The **Green1 LED** will light up. Now, remove the jumper from the communication connector. The **Green1 LED** will turn off, indicating that the Orion2 is now in Program mode.

Next, open the Spitronics Recovery software. The startup screen will look like this one below:

Spitronics Recovery	v V1.0.3		×
Selected COM Port	COM1	~	Refresh
RUN			
Select a COM port and	press run to start		

Click on the **Select COM Port** button.

Spitronics Recovery	V1.0.3	×
Selected COM Port	COM1 ~	Refresh
	COM1	
	COM3	
Select a COM port and	COM4	
	COM6	

Enter the **Comm Port number** your software usually uses. If you're unsure, try selecting each port one by one and click **RUN**. If other software is open, the port may not appear in the list.

≶ Spitronics Recovery V1.0.3 ×			
Selected COM Port	COM1 ~	Refresh	
	RUN		
RUN   PHASE 1   Setting COM port: COM1   No ID table data returned   Starting recovery process on COM port: COM1   Creating recovery firmware   Creating flash exe   Writing firmware to device. Please do not switch the power off!   Download over port: COM1???????Download complete with   [ 8 ] errors   Recover firmware load unsuccessful!			

If the incorrect Comm Port is selected, the message will look like this: "???" in the string, indicating no response from the device. However, if the correct port is chosen, you'll see "@@@" in the message, confirming the communication was successful. See the picture below. The **Firmware select block** will now open, allowing you to load the **X\_Test Firmware version 4.0**. This will enable you to open **Hyperspace Device Manager 4.0**, from which you can install the correct firmware.

Firmware	×	
Please select the relev	ant firmware that you want to load to the unit in the list below.	
Hardware Type	X_Test Fimware ~	
Version	4.0 ~	
Firmware	mware Orion2 Recovery Program Ver 4.0A 18_10_2024.OTfirm	
	🞇 Cancel 🛛 🛩 Ok	

Selected COM Port	COM4	v	Refresh
	RUN		
PHASE 1			
Setting COM port: COM4 No ID table data returned Starting recovery process on COM port: COM4 Creating recovery firmware Creating flash exe Writing firmware to device. Please do not switch the power off! Download over port: COM4@@@@@@@@Download complete with [0] errors Recovery Firmware downloaded successfully to device! Reading ID table data on COM Port: COM4			
PHASE 2 ====================================			

Select the **Orion2 Recovery Program Ver 4.0A 18\_10\_2024.OTfirm** and click **OK**. If the message shows "@@@" again, the programming was successful. This firmware will not pulse any outputs so it is safe to use in a car. Only the 4 LED's on the mercury will flash indicating the firmware loaded successfully.

Confirmat	tion	$\times$
?	You are about to write the file (Mercury3 Recovery Program Ver 4.0A 17_10_2024.MDfirm) to the connected device. PLEASE DO NOT TURN THE POWER OFF UNTIL THE BOOTLOADER IS FINISHED! CLOSE ALL SPITRONICS AND	
	ECU/TCU PROGRAMS THAT MAY INTERFERE WITH THE COMPORT. THEY MAY CORRUPT THE DOWNLOAD ROTINE.	
	Are you sure you want to continue?	
	<u>Yes</u> <u>N</u> o	

Click Yes.

≶ Spitronics Recovery V1.0.3 ×		
Selected COM Port	COM4 ~	Refresh
	RUN	
PHASE 1 ====================================	======================================	e power off! bad ce!
PHASE 2 Retrieving available firm Downloading firmware 18_10_2024.OTfirm) from Creating flash exe Setting device mode 24 Writing firmware to dev Download over port: COM4@@@@@@@@@ errors Web Firmware downloa Process completed. Please connect the devi	ware list from web (Orion2 Recovery Program V m web 8 vice. Please do not switch the @@@@@@@@@@@@@@@@ @@@@Download complete v ided successfully to device!	er 4.0A e power off! @@@@@ with [ 0 ]

You can now close the recovery software and open **HS DM4**. From there, proceed to load the correct firmware for the Orion2. Once you loaded firmware connect with HS ECU software and go through your setup again and make sure your map file is still ok and no settings have changed. Once you are sure your ECU is setup correctly you may switch the device off and connect the other connectors.