Introduction

This document describes how to calibrate the gear channel in the different AIM devices: **MXL Strada/Pista/Pro05**, **EVO4**, **ECU Bridge**, **SoloDL**, **MyChron4** (with MyChron4 **eBox** only). The procedure is composed of three steps: **activation**, **learning lap** and **calculation**. For the procedure to be successful follow carefully these instructions.

1 – Required conditions

Gear calculation works using **RPM** and **speed** channels. They have to be correctly configured and the related sensors are to be faultless.

1.1 – RPM and speed channels used by different AIM devices

RPM and speed channels used by AIM devices for gear calculation are as follows:

- **MXL Strada/Pista/Pro05**, **EVO4** and **ECU Bridge**: RPM selected and speed set as reference speed in Race Studio 2 configuration;
- **SoloDL**: RPM out coming from the ECU and speed channel automatically selected following this criteria: first choice is the speed coming from the ECU; in case this is unavailable the calculation will use GPS speed;
- **MyChron4**: RPM and speed channels coming from the **eBox**.

2 – Activation

Gear calibration procedure can be activated, according to the device, via keyboard or via the Race Studio 2 software, coming with the kit and freely downloadable from download area of www.aim-sportline.com.

2.1 – Activating the procedure on MXL Strada/Pista/Pro05

Run Race Studio 2 software and follow this path:

- “Device Configuration”>>”MXL”>>”System Configuration”, set: “Calculated” or “Calculated + NEUTRAL signal: channel 8” and fill in the highest gear number;
- transmit the configuration to **MXL**;
- at switch on, before making the calculation, **MXL** shows “running gear cal”.

2.2 – Activation on EVO4

Run Race Studio 2 software and follow this path:

- "Device configuration">>"EVO4">>"System configuration", set: "Calculated" or "Calculated + NEUTRAL signal: channel 5" and fill in the highest gear number;
- transmit the configuration to **EVO4**;
- if **EVO4** is connected to a **Formula Steering wheel**, at power on, before making the calculation, this last will show an hourglass icon in the field where the engaged gear is to be shown;
- if, on the contrary, **EVO4** is connected to a **MyChron3 Dash** this last shows the field where the gear is to be shown empty.

2.3 – Activation on ECU Bridge

Run Race Studio 2 software and follow this path:

- "Device configuration">>"SMC Bridge">>"System configuration" (select an **ECU Bridge** configuration or create one), set: "Calculated" and fill in the highest gear number;
- transmit the configuration to **ECU Bridge**;
- if **ECU BRIDGE** is connected to a **Formula steering wheel**, at power on, before making the calculation, this last shows an hourglass icon in the field where the engaged gear is to be shown;
- if, on the contrary, **ECU BRIDGE** is connected to a MyChron3 Dash this last will show the field where the engaged gear is to be shown empty.

2.4 – Activation on SoloDL

Run Race Studio 2 software and follow this path:

- "Device Configuration">>"SoloDL", set: "Calculated" and fill in the highest gear number;
- transmit the configuration to **SoloDL**;
- to show the gear on **SoloDL** display create a custom page and set the gear in one of the fields to be shown.

2.5 – Activation on MyChron4

For **MyChron4** to compute the engaged gear it needs to be configured as a gear box kart following this path:

- Menu>>Control Panel>>Drive Setup: select Gearbox and fill in the number of gears.

To activate the gear calculation follow this path:

- Menu>>Control Panel>>System Setup>Restart Gear Calib.

3 – Learning Lap

Once gear calculation has been activated a track lap has to be run. To run this lap follow carefully these instructions:

- engage all laps;
- keep each gear engaged for at least 10 seconds.
- drive smoothly avoiding sudden accelerations or wheel blocks when braking; let RPM grow gradually and keep braking as longs as possible according to track and traffic conditions; if using a non driving wheel speed as reference pay particular attention to your driving style and reduce also more, sliding between driving and not driving wheels.
- **only if using an MXL Strada/Pista/Pro05**, go to the pit lane at the end of the lap and power the engine off; **absolutely avoid** "revs" while the vehicle is moving; **avoid** running the pit lane with the clutch engaged. You can press the accelerator pedal before switching the engine off if needed **but with the vehicle is completely stopped**.

4 – Gear calculation and visualisation

When all gears have been engaged the device starts computing.

4.1 – Gear calculation and visualisation on MXL Strada/Pista/Pro05

When the computation is over **MXL Strada/Pista/Pro05** shows: "Gear Cal OK" if the procedure has been successful and "Error Gear Calc" if the calculation was unsuccessful.

WARNING: **do not move the vehicle and do not power the engine on while the device is computing**. If you move the vehicle or power the engine on the device could record data that could cause miscomputation.

4.2 – Gear calculation and visualisation on EVO4 and ECU Bridge

Once the calculation is over the device shows the engaged gear in the devoted field of its visor display (paragraphs 2.2 e 2.3).

4.3 – Gear calculation and visualisation on SoloDL

Once the calculation is over **SoloDL** shows the engaged gear on the devoted field of the "Custom" page (paragraph2.4)

4.4 – Gear calculation and visualisation on MyChron4

Once the calculation is over **MyChron4** display shows the engaged gear in the devoted field.

5 – Gear calculation restart

If, for any reason, gear calculation is to be repeated, restart can be done via keyboard or – in case of **EVO4** and **ECU Bridge** without visors – via software.

5.1 – Calculation restart on MXL Strada/Pista/Pro05

To restart gear calculation on **MXL** press “MENU/<<” until it shows “Start Gear Calib” and then twice “MEM/OK”.

5.2 – Calculation restart on EVO4 and ECU Bridge

Gear calculation restart is made via visor keyboard following these paths:

- **Formula Steering Wheel**: Control Panel>>Restart gear calib;
- **MyChron3 Dash**: press “Menu/>>” until it shows “Start gear calc” and then press “MEM/OK”.

If **EVO4** or **ECU Bridge has no visor** the calculation can be restarted only via software following this procedure:

- enter “System Configuration” page of your device, select “None” in gear box and transmit the configuration to the logger;
- enter again “System Configuration” and select “Calculated” or “Calculated + NEUTRAL signal: channel 5” on EVO4 and “Calculated” on ECU Bridge, fill in the highest gear number and transmit the configuration to the device.

5.3 – Calculation restart on SoloDL

Gear calculation restart on **SoloDL** is made via keyboard following this path:

- Menu>>System Management>>Restart gear calibration.

5.4 – Calculation restart on MyChron4

Gear calculation restart on **MyChron4** is made via keyboard following this path:

- Menu>>Control Panel>>System Setup>Restart Gear Calib.