

Gear calculation procedure is to be set via AiM Race Studio 2 software:

- set “Calculated” option in system calibration window
- specify if a neutral sensor is available
- fill in highest gear number
- transmit the configuration to the logger

When the gear sensor is set and the configuration has been transmitted, calculation procedure is to be performed through the logger keyboard and is made up of three steps: start, learning lap and calculation.

The correct procedure requires you to strictly follow these instructions. Gear calibration proceeding is made using two inputs: RPM and speed. These two channels should be correctly configured and the related sensors installation should be faultless.

In case the logger has more than one speed input, gear calibration proceeding will take as reference speed the one shown on the display. It is suggested to take as reference the speed of the driving wheel. Gear calculation proceeding can be made also on not driving wheel, but in this case it is necessary to pay more attention not to have the wheels sliding or blocked during learning lap.

### **Start (via keyboard)**

To start this function or to reset previous values and re-start gear calculation proceeding:

- press [MENU/←] button until the display shows: GEAR CALIBRATION;
- press [MEM/OK] button: the display shows: calculated gear;
- press [MEM/OK] button & fill in the highest gear number using [←] and [→] buttons;
- confirm pressing [MEM/OK] button;
- quit the menu pressing [QUIT/VIEW] button.

As a confirmation of the activation the display shows “running GEAR CAL”: calibration procedure is correctly started.

### **Learning lap**

After gear calibration proceeding activation, a track lap needs to be run. During this learning lap, follow carefully these instructions.

- Engage all gears.
- Keep each gear engaged for at least 5/6 seconds.
- Drive in a smooth way (avoiding sudden accelerations or wheel locks); let the engine keep RPM gradually and keep brakes as long as possible too in line with track characteristics and traffic situation. If using a reference speed coming from a not driving wheel, pay particular attention to driving style, reducing sliding between driving wheels and not driving ones.
- Go to the pit lane after the learning lap and switch the engine off.

**Warning:** totally avoid “revs” while the vehicle is moving; avoid running through the pit lane with friction engaged. If needed, it is possible to press the accelerator before switching the engine off but when the vehicle is completely stopped.

### **Gear Calculation**

After engine switch off gear calculation proceeding starts automatically. During this period LED AL1 blinks. After a few seconds (duration of the calculation depends on learning lap length) LED AL1 switches off and the display does no more show: “running GEAR CAL”.

All AIM systems allow gear calculation proceeding working also if engine switch off is needed. In this case just re-switch the system on and calculation proceeding re-starts automatically with recorded values. Calculation proceeding takes more time and blinking led will be LED AL2 and, after, LED AL1.

**Warning:** do not move the vehicle and do not switch the engine on during gear calculation. Moving the vehicle the logger could record values that would make it misdoing the calculation.

### **Final suggestions**

Gear calculation proceeding is only possible thanks to the measurement of the angular speed of the driving shaft and of the driving wheel. When the friction is completely engaged between the two speeds there is a ratio mechanically defined by the engaged gear. If the friction slides this ratio is no more determinable. If reference speed comes from a not driving wheel the sliding between driving wheel and not driving one due to accelerations and brakes implies an error in the gear computation. This is why it is strongly recommend to drive as smoothly as possible during learning lap

**For more information:** visit <http://www.aim-sportline.com/> and review current Race Studio documentation.