MARELLI SRA EDL8 ECU

Racing Data Power

INTRODUCTION

AIM has developed special applications for many of the most popular ECUs; by special applications we mean user-friendly systems which allow to easily connect your ECU to our high tech data loggers: user needs only to install harness between the **logger** and the ECU.

Once connected, the logger displays (and/or records, depending on the logger and on the ECU data stream and configuration) values like RPM, engine load, throttle position (TPS), air and water temperatures, battery voltage, speed, gear, lambda value (air/fuel ratio) analog channels…

All AIM loggers include – free of charge – **Race Studio 2** software, a powerful tool to configure the system and analyze recorded data on your PC.

Warning: once the ECU is connected to the logger, it is necessary to set it in the logger configuration in Race Studio 2 software.
Select Manufacturer "Marelli" Model "SRA-EDL8".
Refer to Race Studio Configuration user manual for further information concerning the loggers configuration.

Warning: it is always suggested to verify if the ECU needs any software/firmware setting or upgrade to export data to an external logger.

INDEX

Chapter 1 – Technical communication notes

Marelli SRA-EDL8 ECU can communicate with AIM loggers through the CAN bus. This communication can be wrong due to different reasons related also to ECU hardware or software.

1.1 – Hardware check

Marelli CAN line works normally with four wires: CAN High (corresponding to AIM CAN +), CAN low (corresponding to AIM CAN-), Battery+ (corresponding to AIM 9-15VDC) and Battery- (corresponding to AIM GND). To check if hardware is ok:

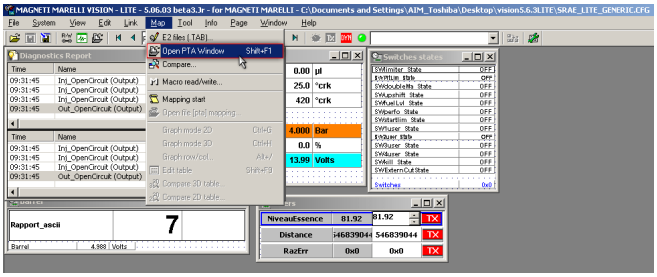
- ensure that a 120 Ohm “line-end resistor” is installed between CAN+ and CAN -; use a multimeter; disconnect AIM logger from the ECU and make this check on both sides (ECU and logger);
- check if the amplitude of each bit is 2V (or at least 1.8V); using a scope ground the probe on CAN- while measuring CAN+. Please ensure that no filtering feature is enabled on the scope: this because of high baud rate of this line.

1.2 – Software settings

For Marelli SRA-EDL8 to correctly communicate with AIM loggers it is necessary to set the ECU via software using Marelli “Vision” software.

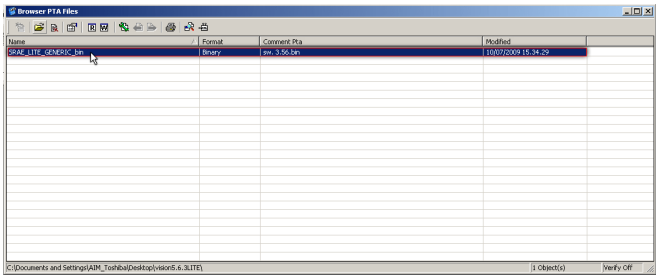
First of all run Marelli “Vision” software.

Press “Map” on the menu bar and select “Open PTA window” option as shown here on the right.



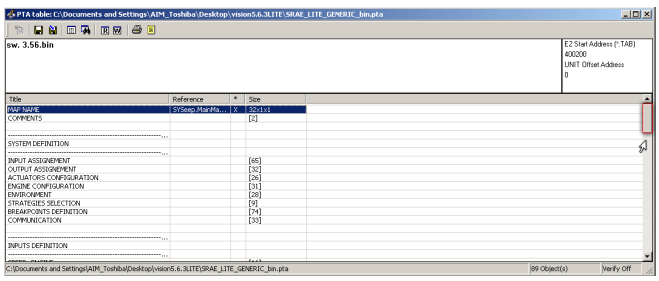
“Open file” window appears. Here on the right “SRAE_LITE_GENERIC.BIN” file is available.

If PTA file is not available in this window, browse to find it and double click on it.

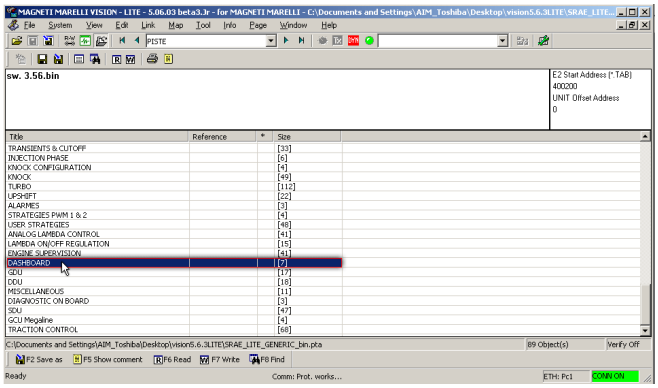


“PTA Table” window appears.

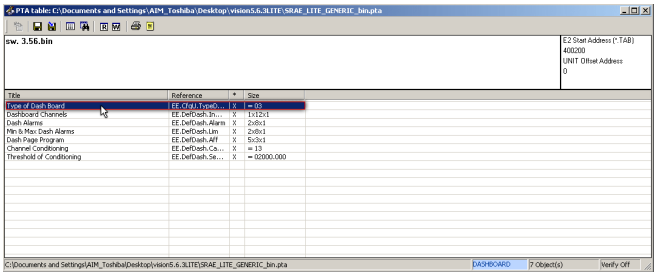
Scroll it using the lateral slider.



Double click on “Dashboard” option.



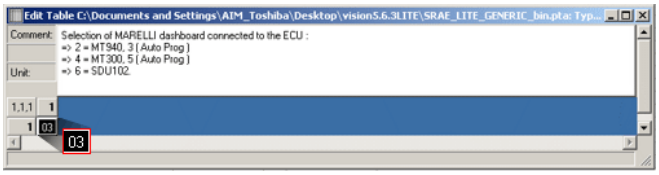
Dashboard window appears.
Double click on “Type of dashboard option”.



“Type of dashboard” table appears.

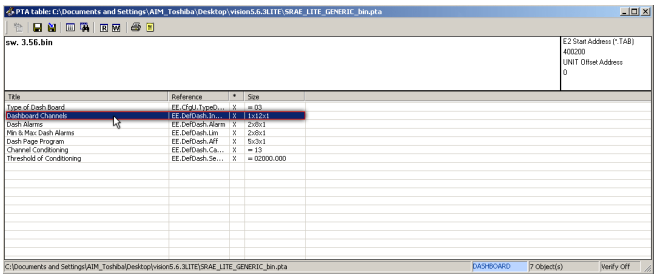
Double click on the only settable cell as shown here on the right and fill in “3” as MT940 “AUTO PROG” option.

Close the window clicking on the cross top right of the window.



The system comes back to the previous window.

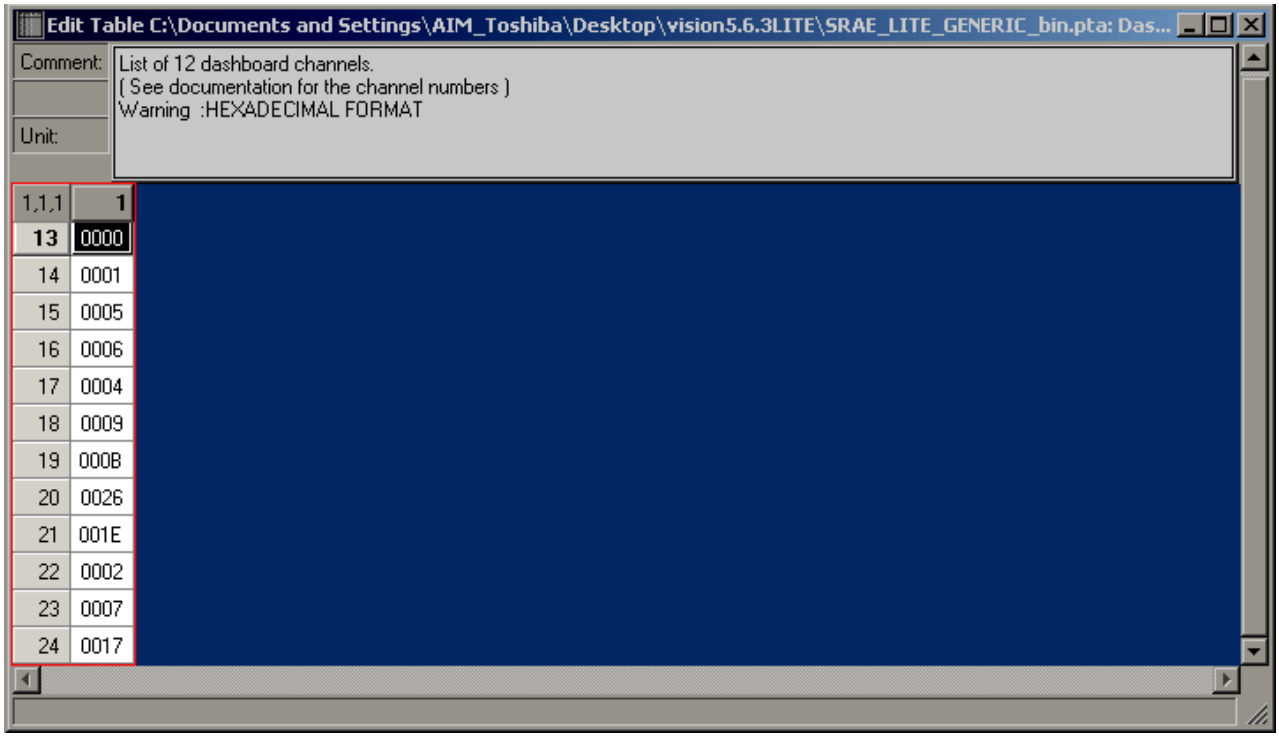
Double click on “Dashboard channels” window.



“Dashboard Channels table appears”. Fill in all cells with these values:

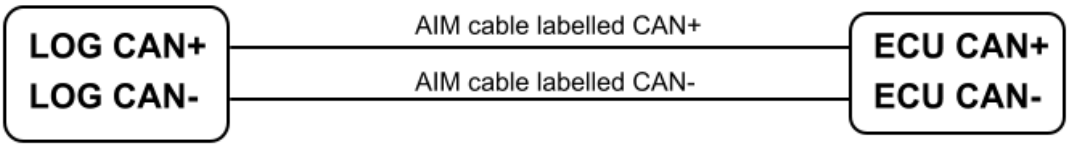
- 0000;
- 0001;
- 0005;
- 0006;
- 0004;
- 0009;
- 000B;
- 0026;
- 001E;
- 0002;
- 0007;
- 0017.

The images here below shows the table with the correct values filed in the proper cells.



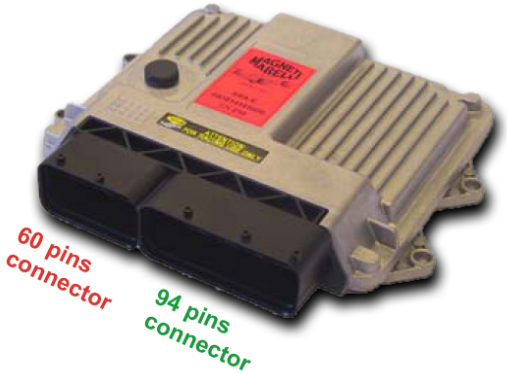
Chapter 2 – Marelli CAN Communication setup

Marelli SRA-EDL8 ECU is equipped with a CAN communication setup used to communicate parameters to an external logger and shown here below.



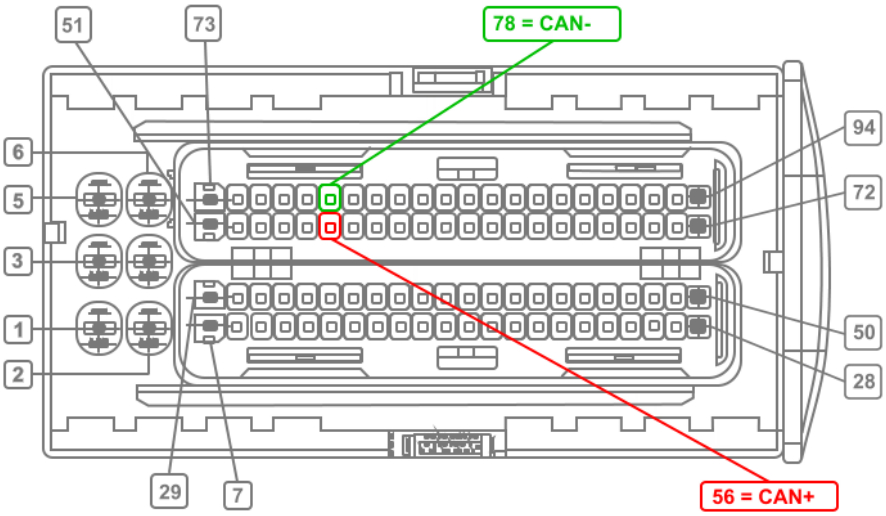
Chapter 3 – Connection with AIM loggers

Marelli SRA-EDL8 ECU is equipped with two front connectors a 60 pins connector and a 94 pins one shown here below.



The connector used to connect Magneti Marelli SRA-EDL8 ECU to AIM logger is the 94 pins one.

The image here below shows Marelli SRA-EDL8 94 pins connector.



To connect Marelli SRA-EDL8 ECU to AIM loggers:

- connect AIM cable labelled CAN+ to pin 56 (CAN+) of the 94 pins connector;
- connect AIM cable labelled CAN- to pin 78(CAN-) of the 94 pins connector;

Chapter 4 – SRA communication protocol

Channels received by AIM loggers connected to Marelli SRA-EDL8 ECU are:

ID	CHANNEL NAME	FUNCTION
ECU_1	EDL8_RPM	RPM
ECU_2	EDL8_TPS	Throttle position sensor
ECU_3	EDL8_ECT	Engine cooling temperature
ECU_4	EDL8_OILT	Oil temperature
ECU_5	EDL8_OILP	Oil pressure
ECU_6	EDL8_FUELP	Fuel pressure
ECU_7	EDL8_BATTV	Battery supply
ECU_8	EDL8_GEAR	Engaged gear
ECU_9	EDL8_LAMBDA	Lambda value
ECU_10	EDL8_SPEED	Vehicle speed
ECU_11	EDL8_MAP	Manifold air pressure
ECU_12	EDL8_AIR_T	Intake air temperature