

Pectel SQ6 ECU



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.

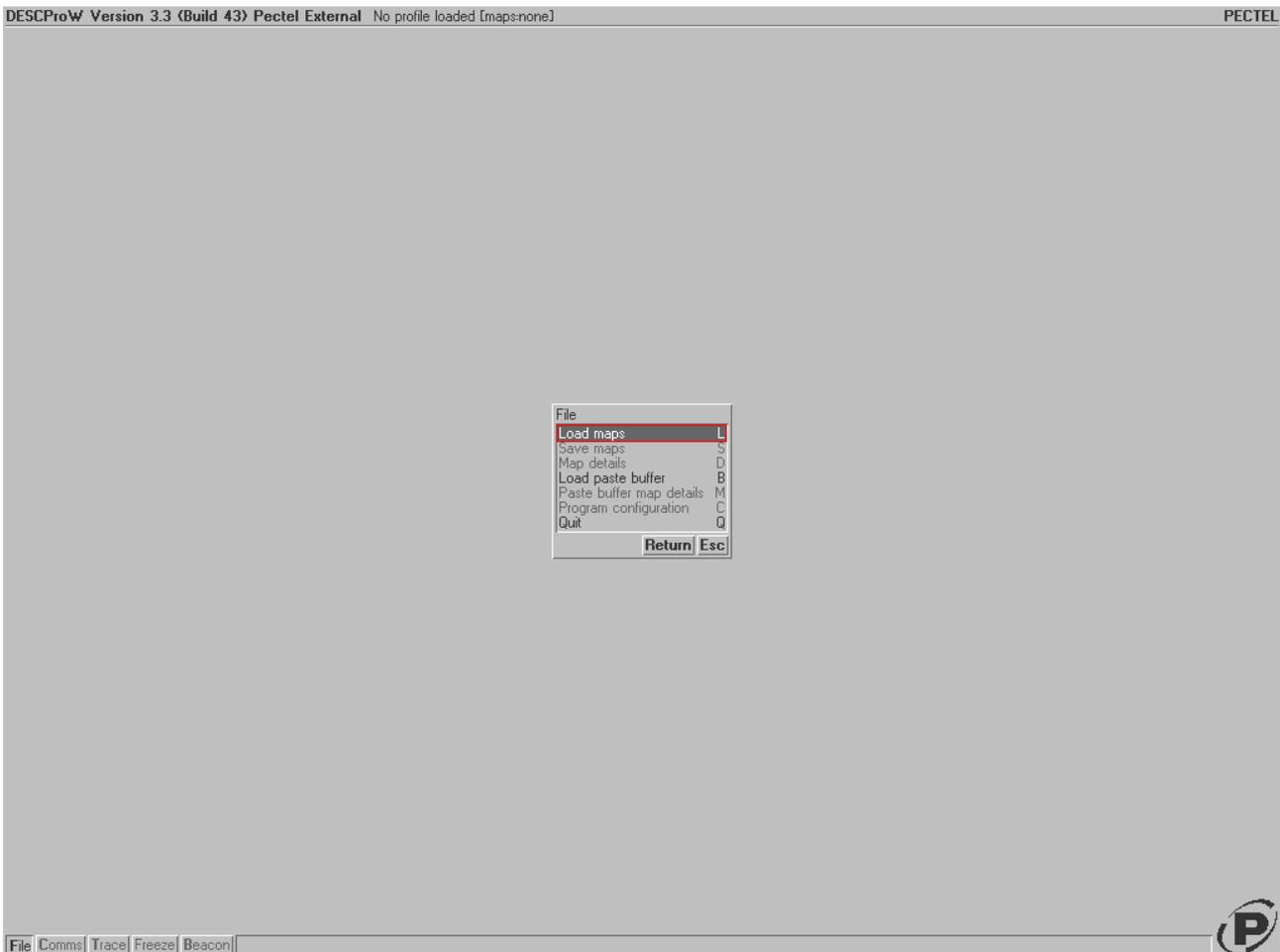
Warning: once the ECU is connected to the logger, it is necessary to set it in the logger configuration in Race Studio 2 software. Select Manufacturer “Pectel” Model “SQ6”. Refer to Race Studio Configuration user manual for further information concerning the loggers configuration.

Warning: for any further information concerning ECU firmware/software settings and/or upgrading it is always recommended to address to the ECU dealer.

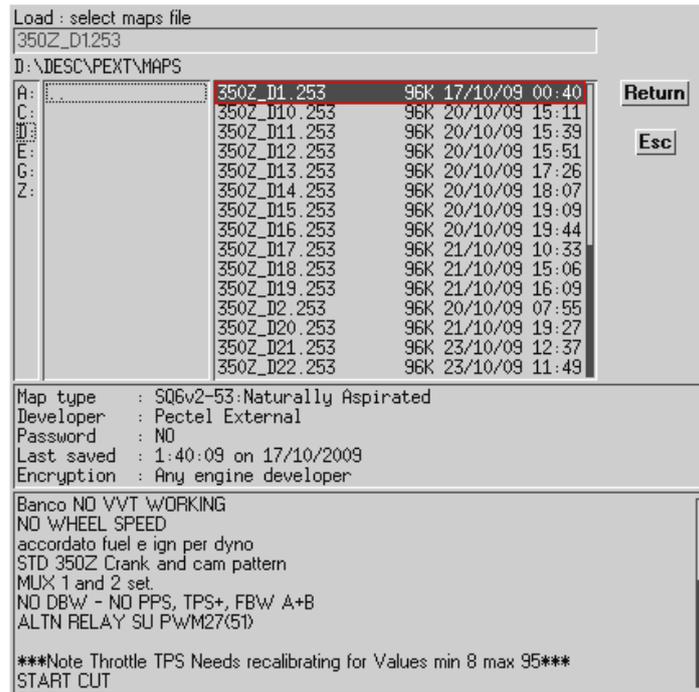
1 – ECU configuration by DESC ProW software

To communicate with **AIM** loggers, **Pectel SQ6** ECU is to be configured using “DESCPRO”, the software provided by **Pectel** to communicate with data loggers. To set the ECU, follow these steps:

- Connect the ECU to a PC with “**DESCPRO**” installed and turn the ECU on;
- Launch “DESCPRO” (current version is 3.3 – build 43);
- click on [**ON-LINE**];
- **Load** File map calibration following these steps:
 - press [**F**] or click on FILE [**low**] on the left;
 - press [**L**] or select [**Load MAPS**] (see image below)



- select Map/Calibration file (e.i. “350Z_D1_253” see image below);
- click **[Enter]**: the software reads the ECU configuration (called “MAPS”);



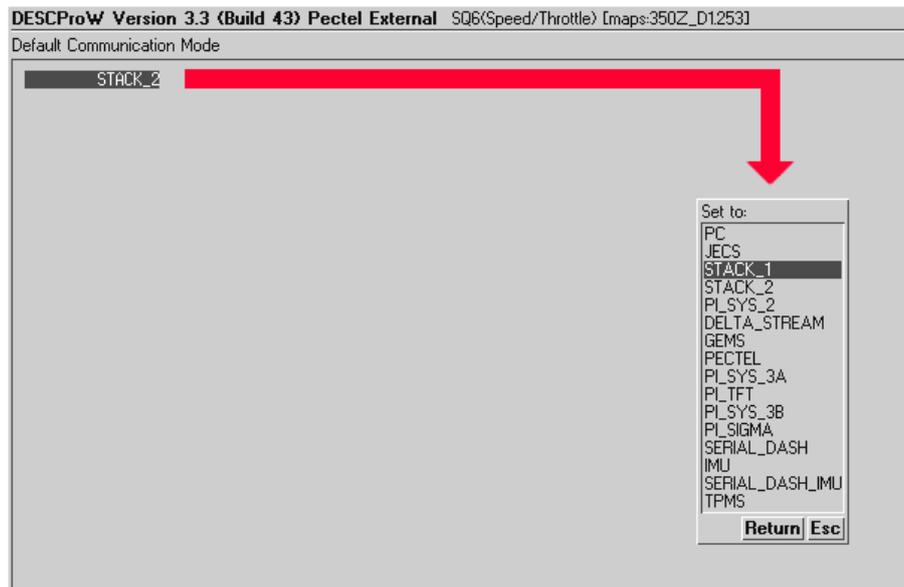
- when finished, press **[M]** or click **[Menu]**;
- select **[Communication Setup]**;



- double click on **[Serial DataStream]**;
- then select **[Default Communication Mode]**;

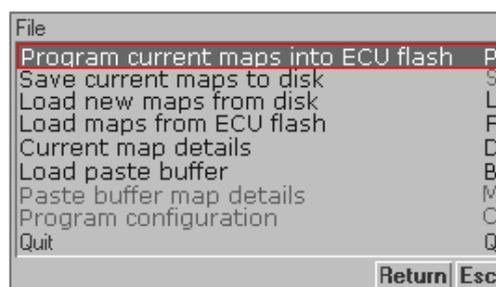


- check if default communication mode is already set **[STACK_1]**, otherwise press **[ENTER]**;
- select **[STACK_1]**;
- press **[Return]**.

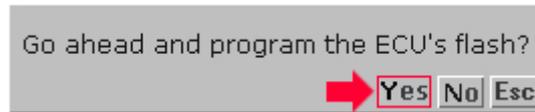


The new configuration needs to be transmitted to the ECU:

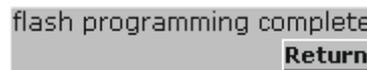
- click **[File>>Program current maps into ECU flash]** and confirm when prompted.



- confirm when prompted pressing **[YES]**.



- press **[F10]** to save the ECU configuration;
- if the programming is successfully completed the following message appears:

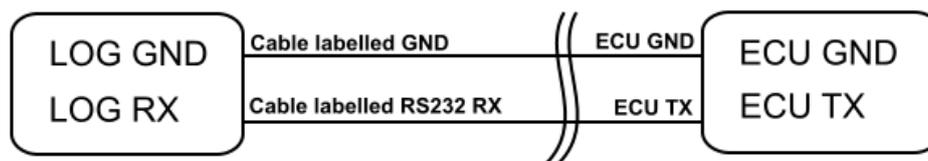


- after data transfer quit “DESCPRO”, ECU is ready to communicate with AIM logger

2 – Communication setup and connection to AIM logger

The ECU is equipped with a serial communication setup (RS232) used to communicate parameters to an external data logger, or to configure the ECU itself.

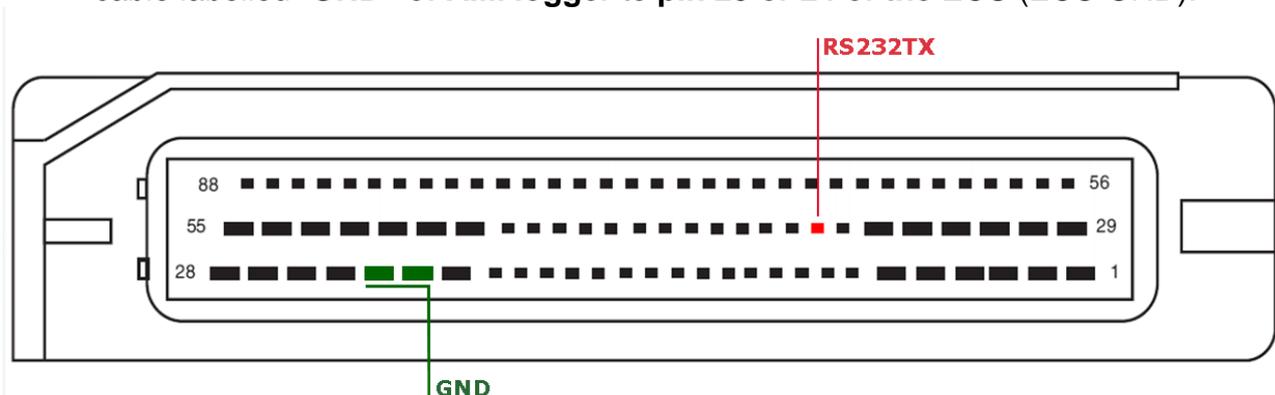
The serial communication is shown here below:



Pectel SQ6 is equipped with a 88 pins connector used to communicate parameters to AIM logger (image below).

To connect AIM datalogger to the ECU, please connect:

- cable labelled “**RS232RX**” of **AIM logger** to **pin 36 of the ECU** (ECU TX);
- cable labelled “**GND**” of **AIM logger** to **pin 23 or 24 of the ECU** (ECU GND).



PIN	Function	Comments
36	ECU RS232TX	Connection to“RS232RX” AIM cable
23-24	ECU GND	Connection to“GND” AIM cable

3 – ECU communication protocol

Channels received by AIM loggers connected to **Pectel SQ6** ECU are:

ID	CHANNEL NAME	FUNCTION
ECU_1	PECTEL_RPM	RPM VALUE
ECU_2	PECTEL_SPEED	SPEED VEHICLE
ECU_3	PECTEL_OILPRESS	OIL PRESSURE
ECU_4	PECTEL_OILTEMP	OIL TEMPERATURE
ECU_5	PECTEL_ECT	WATER TEMPERATURE
ECU_6	PECTEL_FUELPRESS	FUEL PRESSURE
ECU_7	PECTEL_BATTVOLT	BATTERY VOLTAGE
ECU_8	PECTEL_TPS	THROTTLE POSITION SENSOR
ECU_9	PECTEL_MAP	MANIFOLD PRESURE
ECU_10	PECTEL_AIRCHARGETEMP	AIR CHARGE TEMPERATURE
ECU_11	PECTEL_EXHTEMP	EXHAUST GAS TEMPERATURE
ECU_12	PECTEL_LAMBDA	LAMBDA VALUE
ECU_13	PECTEL_FUELTEMP	FUEL TEMPERATURE
ECU_14	PECTEL_GEAR	GEAR NUMBER
ECU_15	PECTEL_COUNTER	COUNTER
ECU_16	PECTEL_FUELLEVEL	FUEL LEVEL
ECU_17	PECTEL_ERRORFLAG	ERROR