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AiM Infotech

Pectel SQ6

Release 1.01



ECU





1 Introduction

This user manual explains how to connect Pectel ECUs to AiM devices. Supported model is:

Pectel

SQ6

2 Software setup

Pectel SQ6 ECU needs a software setup to correctly communicate with AiM devices. Pectel provides DESCProW software. To set the ECU follow these steps:

- connect Pectel SQ6 to your PC
- run DESCProW software (version used in this user manual is 3.3 build 43)
- click "ON-LINE"

With reference to the image below

- press "F" or click "File" bottom left
- press "L" or select "Load maps"

DESCProW Version 3.3 (Build 43) Pecte	el External No profile loaded [maps:none]	PECTEL
	File	
	Save maps S	
	Map details D	
	Paste buffer map details M	
	Program configuration C	
	Return Esc	
		, D /
File Comms Trace Freeze Beacon		



- select Map/Calibration file (in the example "350Z_D1_253)
- press "Enter" or click "Return": the software reads the ECU configuration (called MAPS)

DESCProW Version 3.3 (Build 43) Pectel External	No profile loaded [maps:none]	PECTEL
DESCProW Version 3.3 (Build 43) Pectel External	No profile loaded [maps:none] Load : select maps file 3302_D1253 D:\DESC\PEXT\MAPS A: Stor_D1253 D:\DESC\PEXT\MAPS A: Stor_D1253 D:\DESC\PEXT\MAPS A: Stor_D1253 D:\DESC\PEXT\MAPS A: Stor_D11.253 Stor_D12.253 Stor_D11.253 Stor_D12.253 Stor_D12.253 Stor_D12.253 Stor_D12.253 Stor_D12.253 Stor_D12.253 Stor_D12.253 Stor_D12.253 Stor_D12.253 S	PECTEL
	STD 3502 Crank and cam pattern MUX 1 and 2 set. NO DBW - NO PPS, TPS+, FBW A+B ALTN RELAY SU PWM27(51) ***Note Throttle TPS Needs recalibrating for Values min 8 max 95*** START CUT	
File Comms Trace Freeze Beacon		(P

- when finished press "M" or click "MENU"
- select "BASE CALIBRATION 1"
- select "Communication Setup"
- press "Enter" or click "Return"

DESCProW Version 3.3 (Build 43) Pectel External	SQ6(Speed/Throttle) [maps:350Z_D1.253]	PECTEL
STANDARD MAPPING		Help Report Report Include + Open all - Close all Menu
BRSE CALIBRATION 4 -> BASE CALIBRATION 2 -> BASE CALIBRATION 3 -> BASE CALIBRATION 4 -> FUEL CORRECTIONS -> IGNITION CORRECTIONS -> ENGINE SPEED LIMITER -> VARIABLE CAM TIMING -> TRACTION CONTROL -> IDLE SPEED CONTROL WITH IGNITION ->	Select mapping menu STANDARD MAPPING SOFTWARE SETUP COMMUNICATIONS SETUP INPUT FUNCTIONS ANALOGUE SENSOR SETUP HARDWARE SETUP Return Esc	
File Comms Trace Freeze Beacon F1 Help ENTER oper	i group/close group/edit map	



- double click "SERIAL DATASTREAM"
- select "Default Communication Mode"

COMMUNICATIONS SETUP Help Report Report Include + Open all - Close all Menu RS DASH -> CAN DATASTREAM -> SERIAL DATASTREAM <- IDEFaults Communication Mode Enable Calibration Data on Datastreams Enable Calibration Data on Datastreams USER-DELTHED CHANNELS -> DELTA STREAM ALRAWS -> SHIFT LIGHTS -> SERIAL DASH SETUP -> Etal Common Function UNIT -> SERIAL DASH SETUP -> Etal Common Function	DESCProW Version 3.3 (Build 43) Pectel External SOB(Speed/Throttle) [maps:3507_01253]	PECTEL
RS DASH -> CAN DATASTREAM -> SERIAL DATASTREAM <= Default: Communication Mod: Enable Calibration Data on Datastreams Enable Fuel Used on Stack Datastreams USER-DEFINED CHANNELS -> DELTA STREAM ALARMS -> USER-DEFINED CHANNELS -> DELTA STREAM ALARMS -> SERIAL DASH SETUP -> Etal Common Turnel Exerct Research Research (Et Hole ENTER even group forth mon.	COMMUNICATIONS SETUP	Help Report Report Include + Open all - Close all Menu
	RS DACH -> CAN DATASTREAM -> SERIAL DATASTREAM <= IDeFault Communication Mode Enable Calibration Data on Datastreams DATASTREAM DACHDORDS -> USER-DEFINED CHANNELS -> DELIA STREAM ALARMS -> JELIA STREAM ALARMS -> SHIFT LIGHTS -> -INERTIAL MOTION UNIT -> SERIAL DACH SETUP ->	
Fiel Commel Trace Excess Research E1 Help ENTER open group (alore grou		Â
The commission reaction beauting in the carter open group/close gr	File Comms Trace Freeze Beacon F1 Help ENTER open group/close group/edit map	

- check communication mode setting: if is "Stack_1" everything is ok, if not like in the image below press "Enter"
- select "Stack_1"
- press "Enter" or click "Return"

DESCProW Version 3.3 (Build 43) Pectel External SQ6(Speed/Throttle) [maps:350Z_D1253]	PECTEL
Default Communication Mode	Undo Lock Diff Options TabFlip Graph Math EscClose
STACK 2	SAME Free Fine Point
Set to: PC JECS STACK_1 STACK_2 PL_SYS_2 PL_SYS_2 DELTA_STREAM GEMS PECTEL PL_SYS_3A PL_TFT PL_SYS_3A PL_TFT PL_SYS_3A PL_SIGMA SERIAL_DASH IMU SERIAL_DASH IMU SERIAL_DASH IMU SERIAL_DASH IMU SERIAL_DASH IMU	
File Comms Trace Freeze Beacon F1Help F2+ F3- F4+ F5/ F6+% F7-% Area Paste F8Auto	(P

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The new configuration needs to be transmitted to the ECU:

- press "F" or click "File"
- select "Program current maps into ECU flash"
- press "Enter" or click "Return"

DESCProW Version 3.3 (Build 43) I	Pectel External No profile loaded [maps:none]	PECTEL
	File Program current maps into ECU flash P Save current maps to disk Load new maps from disk Load maps from ECU flash Current map details Load paste buffer Paste buffer Paste buffer Paste buffer Return Esc	
File Comms Trace Freeze Beacon		(P

• confirm when prompted clicking "YES"

DESCProW Version 3.3 (Build 43) Pectel External No profile	: loaded [maps:none]	PECTEL
	Go ahead and program the ECU's flash? Yes No Esc	
File Comms Trace Freeze Beacon		P

- press [F10] to save the configuration
- if the procedure has been successful transmitted this message is shown:

DESCProW Version 3.3 (Build 43) Pectel External	No profile loaded [maps:none]	PECTEL
	flash programming complete <u>Return</u>	
File Comms Trace Freeze Beacon		(P

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3 Wiring connection

Pectel SQ6 ECU features a serial communication protocol on the 88 pins front male connector highlighted here below. Bottom of it is connection table.



Front connector pin	Pin function	AiM cable
36	RS232TX	RS232RX
23 or 24	Ground	GND

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4 AiM device configuration

Before connecting the ECU to AiM device, set this up using AiM Race Studio software. The parameters to select in the device configuration are:

- ECU manufacturer "Pectel"
- ECU Model: "SQ6"

5 Available channels

Channels received by AiM devices connected to "Pectel" "SQ6" protocol 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	Engine coolant 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 pressure
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