

## **Trionic 5 CarPC user manual**

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## Setting up the system

For the carpc application and the dashboard to function properly you will have to do a couple of things. Without these steps the carpc application and the dashboard will not function properly or will not function at all.

1. Install the application onto your carPC or laptop (dot net framework 2.0 is required)
2. Copy your binary file into the installation folder (e.g. c:\program files\dilemma\carpccontrol)
3. Rename your binary file that you just copied to "workbin.bin" without the double quotes.
4. Set the option for the carPC application to your preferences (see next chapter)

After installing the carPC application the system will start "initcarpc.exe" at system startup by default. This little helper application can do several thing for you.

- A. Check the update folder (which is pointed to by the settings in initcarpc.config "UpdatePath") for stuff that needs to be copied from (for example) an USB memory disk to the carPCs working folder. This enables you to put updates of the binary file or separate executables, config files or whatever on an USB disk and have the system update those files at system boot.
- B. Launch the carPC application itself.

Hence, every time you boot the system, initcarpc will check for updates that need to be copied and afterwards launch the carpc application.

## CarPC application settings

There are several settings for the carPC application. These are stored in a .config file in the working directory of the application. Make sure to make a backup copy of files that already exist in that directory because the .config file will be overwritten on installation.

Parameter	Meaning	Type
EngineManagement	Path to the application to launch for engine management operations (T5Suite).	Path
Internet	Path to the application to launch for internet browsing.	Path
Calendar	Path to the application to launch for calendar functions.	Path
Navigation	Path to the application to launch for navigation.	Path
Bluetooth	Not used	Path
Video	Path to the application to launch for video playback.	Path
Audio	Path to the application to launch for audio playback.	Path
Dashboard	Path to the application to launch for the cars dashboard.	Path
UpdatePath	Not used	
UseThreeBarScale	Not used	

## Dashboard settings

The dashboard application itself also has several settings.

Parameter	Meaning	Type
UseMetricSystem	No longer used	Boolean
CarWeightInKG	The weight of the car, used for performance calculations	Int32
CarFrontSurfaceM2	The front surface size in square meters, used for performance calculations	float
InjectorRateCCperMin	The injectors flow rate in cc/minute. Used to calculate the fuel consumption	Int32
DragCoefficient	The cars drag coefficient. Used for performance calculations	float
DrivetrainLossPercentage	The drivetrain loss percentage. Used for performance calculations.	Int32
SpeedTrimPercentage	Percentage to correct speed values. Can be used on cars with larger deviance in speed reading.	Int32
CarHasAutoTransmission	Indicates whether or not the car uses a automatic gearbox. This rules out the option to calculate performance based on selected gear and rpm.	Boolean
StartInScreenNumber	Integer number that indicates the screen number to start the dashboard on. (0 based)	Int32
LogCopyPath	Path to copy logfiles on application exit. Very useful when using a carpc and an USB stick to gather the logfiles.	String
UseSpeedAverage	Determines whether vehicle speed values should be averaged.	Boolean
UseExternalEGT	For testing purposes only	Boolean
ExternalEGTComport	For testing purposes only	String
Width	Sets the width of the application window	Int32
Height	Sets the height of the application window	Int32
ForceScreenWidth	Determines whether the application should set the screen resolution. If ForceScreenWidth and ForceScreenHeight are zero (0) the resolution is left default.	Int32
ForceScreenHeight	Determines whether the application should set the screen resolution. If ForceScreenWidth and ForceScreenHeight are zero (0) the resolution is left default.	Int32

## Using a wideband lambda sensor

The dashboard application allows for usage of a wideband lambda sensor. To be able to use it the wideband signal should be fed to the ECU on pin 69 (AD\_EGR) and these settings need to be altered in the windows registry. The setting should be equal to those used in the wideband lambda controller.

HKEY\_CURRENT\_USER\Software\T5CarDashboard\

Parameter	Meaning	Example	Type
WidebandHighAFR	Maximum AFR	22,39	float
WidebandHighVoltage	Maximum voltage	5000	Millivolt
WidebandLambdaSymbol	Symbol to use for WBO2 sensor information	AD_EGR	String
WidebandLowAFR	Lowest AFR	7,35	Float
WidebandLowVoltage	Lowest voltage	0	millivolt
UseWidebandLambdaThroughSymbol	Switch wideband O2 info on/off	True	Boolean

## Using a GPS receiver for speed

The dashboard application allows for usage of a GPS receiver to measure speed, power and torque. To be able to use the GPS receiver these settings need to be altered in the windows registry.

HKEY\_CURRENT\_USER\Software\T5CarDashboard\

Parameter	Meaning	Example	Type
GPSPortNumber	comportnumber	6	DWORD
GPSBaudRate	baudrate	4800	DWORD
UseGPSForSpeed	Switch GPS usage on/off	True	Boolean

## Using the dashboard

The dashboard application shows realtime information from the ECU. The parameters that are retrieved from the ECU are fixed and displayed in a preset fashion. Some alteration can be made by clicking on a gauge. For example: the intake air temperature can be switched from degrees celcius to degrees fahrenheit and back. These settings are stored in the windows registry.

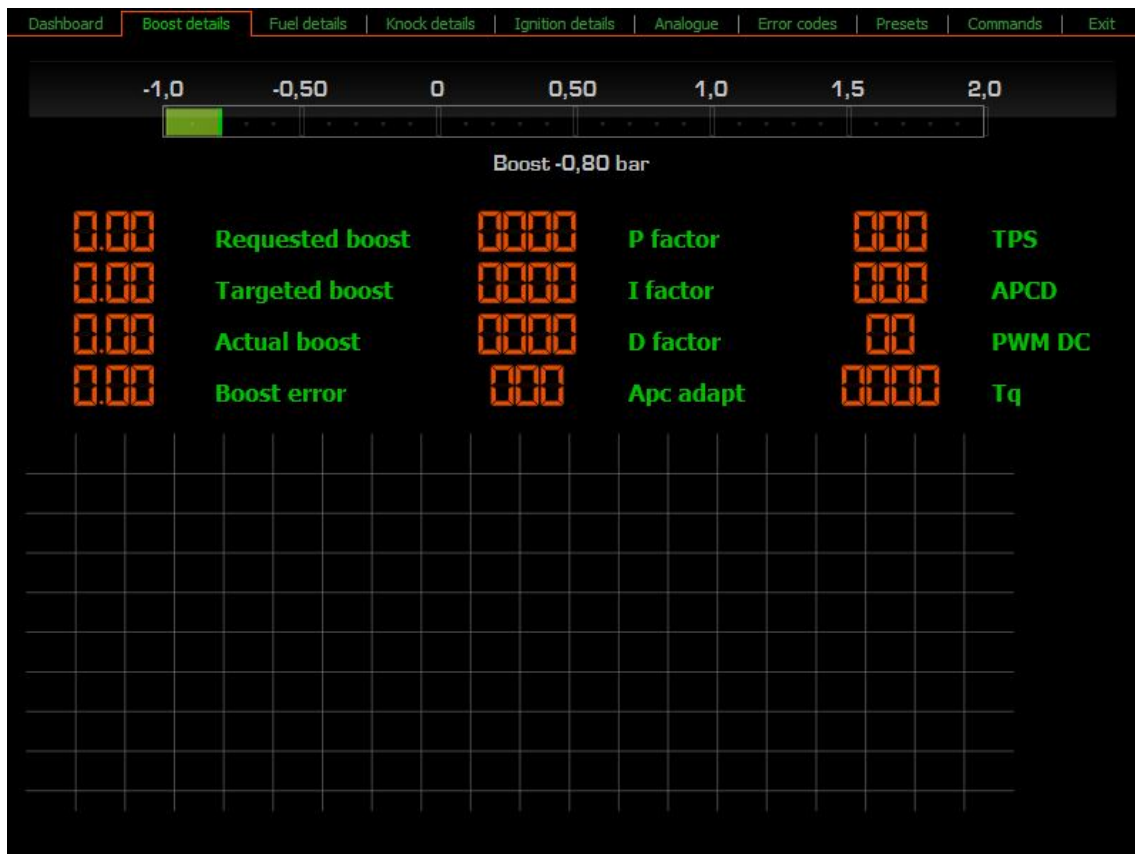
The *main dashboard* screen shows:

- Vehicle speed
- Engine speed
- Intake air temperature
- Coolant water temperature
- AFR (based on narrowband or based on wideband O2 sensor)
- Ignition advance
- APC decrease value
- Fuel consumption
- Power and torque (estimates)
- APC adaption value
- Long temp fuel trim
- Idle fuel trim
- Ignition adaption value
- Turbo boost
- Injector duty cycle



The *boost details* screen shows:

- Turbo boost
- Requested boost
- Targeted boost
- Actual boost
- Boost error (difference between target and actual)
- P factor from PID controller
- I factor from PID controller
- D factor from PID controller
- APC adapt value
- Throttle position sensor
- APC decrease value (boost reduction because of knock conditions)
- PWM duty cycle output to BPC valve
- Tq value
- A graph containing history of these values



The *fuel details* screen shows:

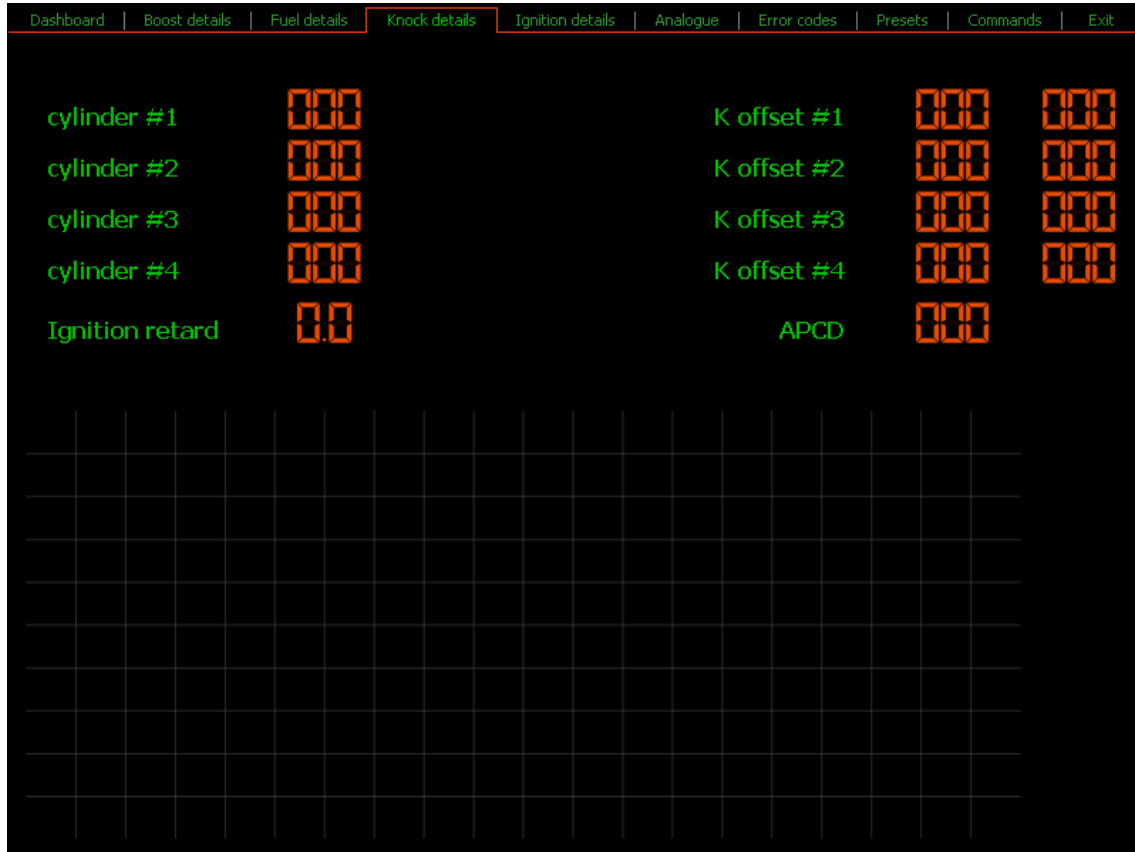
- Injector duty cycle
- AFR (based on narrow band or wideband O2 sensor)
- Enrichment and enleanment factors for load and tps change





The *knock details screen* shows:

- Knock count for cylinder 1 – 4 including differences (will appear when knock is detected)
- Knock ignition offset for cylinder 1 – 4 and maximum values for these
- APC decrease value
- A graph containing these values



The *ignition details* screen shows:

- Ignition advance
- Ignition trim
- Idle ignition target
- Ignition adaption value
- Knock retard value
- Knock ignition offset for cylinder 1 – 4 and maximum values for these
- Ignition counter
- A graph for these values



The *analogue screen* shows:

- Engine speed
- Vehicle speed
- Boost
- Intake air temperature
- Coolant water temperature
- Injector duty cycle
- AFR
- Power and torque (estimates)
- Fuel consumption

All in analogue gauge form.



The *error codes screen* shows:

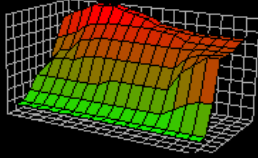
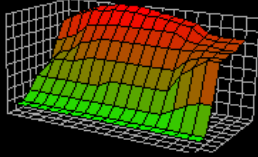
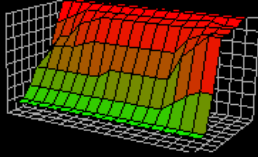
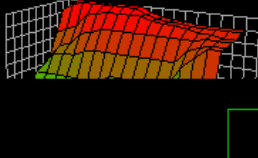
All known error counters and their respective error codes (still in development)



The *presets screen* shows:

All currently available presets (these can be exported from T5Suite) for boost curves.  
To update the ECU with a certain preset map, select the map and click "Write to ECU".

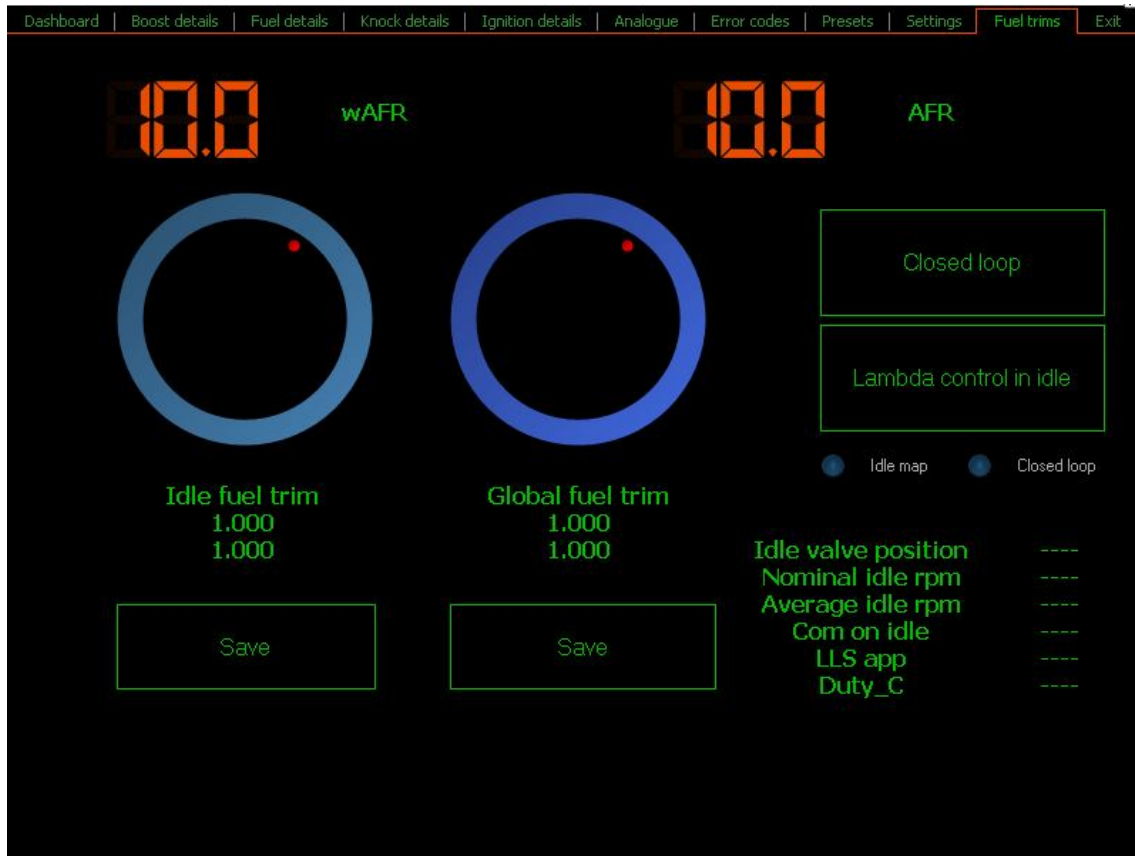
Dashboard
Boost details
Fuel details
Knock details
Ignition details
Analogue
Error codes
Presets
Commands
Exit

Description	MyStage6 (new map)		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Map name	Tryck_mat!		
Maximum boost	1,64 bar		
Description	MyStage6 (maximum)		
Map name	Tryck_mat!		
Maximum boost	1,76 bar		
Description	MyStage6 (low)		
Map name	Tryck_mat!		
Maximum boost	1,10 bar		
Description	MyStage6 (average)		
Map name	Tryck_mat!		

Write to ECU

The *Fuel trims* screen shows:

In this screen you can trim your fuel settings both for normal and idle conditions.



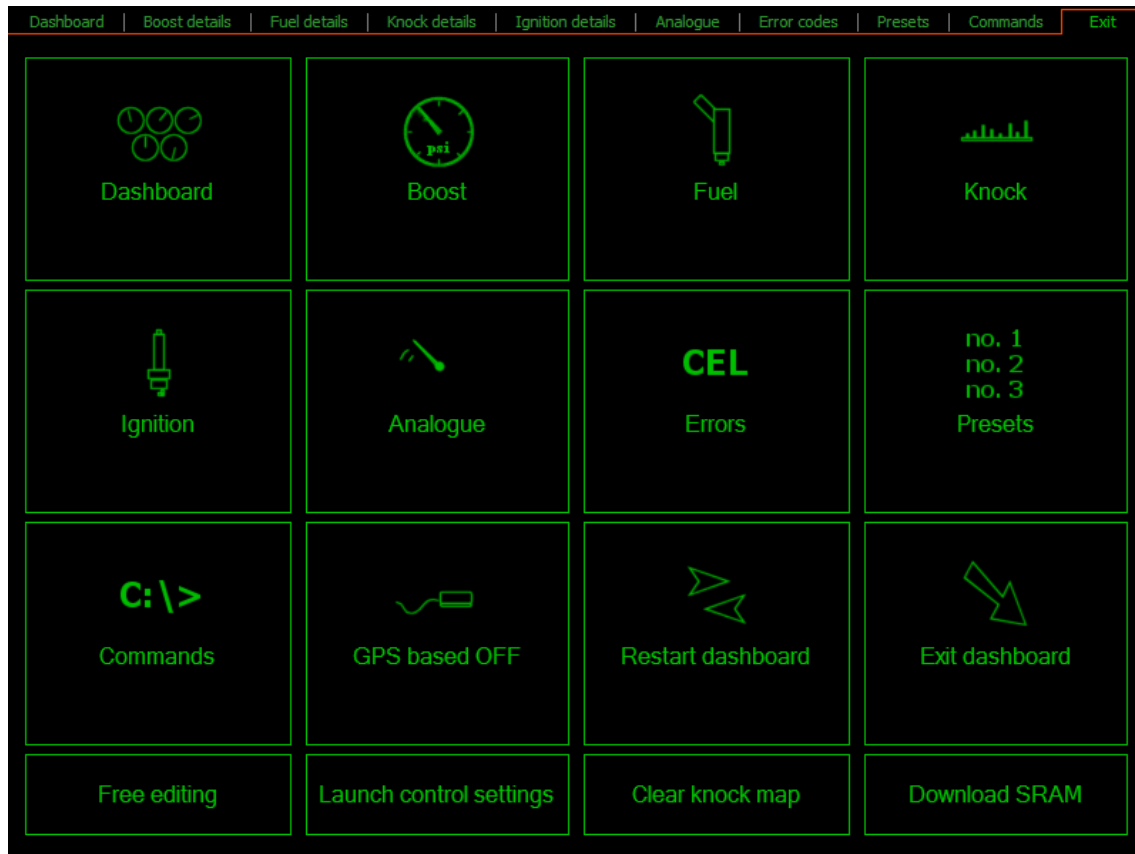
The *Settings* shows:

All options to enable and disable in the Trionic 5 firmware. Disabled options will be orange, enabled option green. Clicking an option will toggle the setting in the ECU.

Dashboard	Boost details	Fuel details	Knock details	Ignition details	Analogue	Error codes	Presets	Settings	Fuel trims	Exit
Closed loop	Knock detection	Spot adaption (adaptivity)	Adaptivity with closed throttle							
Purge control	Temperature correction	Temperature correction in closed loop	Global adaption							
Fuelcut during engine braking	Lambda correction on A/C	Lambda correction on TPS	Lambda control in transients							
Load control	Acceleration enrichment	Deceleration enleanment	WOT enrichment							
No fuelfut in R, 1 and 2	Adaption of idle control	Fuel adjustment in idle	Lambda control in idle							
Higher idle during start	Idle control	Load buffer in idle	Use idle injection map							
Enrichment during start	Enrichment after start	Fixed idle ignition 1&2								

The *exit screen* shows:

All options to switch the application to. From this screen you can navigate to all screens in the application.



Switching between screens.

To prevent the user to use the quite small tabpage headers on a touch screen a helper function has been created to be able to switch between screen very easily. If a user clicks on one of the tabpages (between the gauges and labels) a "switch" button will be shown. Fast computers will fade in the button while slower computers will instantly display it. If the user clicks on this button, he will be transferred to the exit screen shown above and from there he can navigate to all other screens.





## Advanced functions

The dashboard contains some advanced functions for tuners. These are accessed in several ways.

### *Launch control*

A launch control function has been added to the dashboard which can be accessed in two ways, either by double clicking the RPM gauge in the main screen or by activating it in the *exit* screen. It will only be activated if the vehicle is not moving (speed = 0).

Once launch control is active, the RPM gauge will turn yellow in stead of orange and the maximum achievable engine speed will be limited to 4000 (default) rpm. Once the vehicle starts moving (speed  $\geq 15$  (default) km/h) launch control will automatically be deactivated. You can also manually deactivate it by once more double click the rpm gauge or the button the exit screen. On deactivation the rpm limit will be restored to its previous value. You can set the launch control parameters by clicking "Launch control settings" in the exit screen (it will allow you to set speed and rpm parameters).

### *Tuning common boost maps*

Clicking the graph in the boost screen will show a screen allowing editing of boost related maps. The left side contains five buttons allowing modification of boost request and PID control maps. Click a button (e.g. Boost request) and the data will be retrieved from the ECU. Now you can edit the values with the buttons on the bottom side. Select the cell(s) you want to change and use the -, -10, + and +10 buttons to increment or decrement the values in the cells.

Save the data back to the ECU by clicking the "Save data" button. The progressbar will show the write progress. Selecting "OK" will close the screen.

Boost request	<input type="checkbox"/> 0	0	0	0	0	0	0	0
	0 -0,81	-0,81	-0,81	-0,61	-0,01	0,34	0,56	0,88
	0 -0,81	-0,81	-0,81	-0,51	0,26	0,46	0,62	1,04
	0 -0,81	-0,81	-0,81	-0,40	0,34	0,56	0,70	1,16
	0 -0,81	-0,81	-0,81	-0,21	0,46	0,66	0,78	1,23
	0 -0,81	-0,81	-0,81	-0,16	0,50	0,72	0,84	1,26
	0 -0,81	-0,81	-0,76	-0,10	0,54	0,69	0,87	1,29
	0 -0,81	-0,81	-0,66	-0,01	0,62	0,65	0,89	1,28
	0 -0,81	-0,81	-0,37	0,21	0,62	0,68	0,98	1,28
	0 -0,81	-0,81	-0,37	0,21	0,62	0,70	0,96	1,28
Boost bias	0 -0,81	-0,81	-0,37	0,21	0,62	0,74	0,98	1,24
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,77	0,94	1,16
	0 -0,81	-0,81	-0,37	0,21	0,62	0,87	0,96	1,07
	0 -0,81	-0,42	0,10	0,52	0,74	0,87	0,87	0,90
	0 -0,81	-0,22	0,42	0,68	0,80	0,87	0,87	0,88
	0 -0,81	-0,01	0,46	0,68	0,80	0,87	0,87	0,86
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,70	0,96	1,28
	0 -0,81	-0,81	-0,37	0,21	0,62	0,68	0,98	1,28
P factors	0 -0,81	-0,81	-0,37	0,21	0,62	0,74	0,98	1,24
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,77	0,94	1,16
	0 -0,81	-0,81	-0,37	0,21	0,62	0,87	0,96	1,07
	0 -0,81	-0,42	0,10	0,52	0,74	0,87	0,87	0,90
	0 -0,81	-0,22	0,42	0,68	0,80	0,87	0,87	0,88
	0 -0,81	-0,01	0,46	0,68	0,80	0,87	0,87	0,86
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,70	0,96	1,28
	0 -0,81	-0,81	-0,37	0,21	0,62	0,68	0,98	1,28
I factors	0 -0,81	-0,81	-0,37	0,21	0,62	0,74	0,98	1,24
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,77	0,94	1,16
	0 -0,81	-0,81	-0,37	0,21	0,62	0,87	0,96	1,07
	0 -0,81	-0,42	0,10	0,52	0,74	0,87	0,87	0,90
	0 -0,81	-0,22	0,42	0,68	0,80	0,87	0,87	0,88
	0 -0,81	-0,01	0,46	0,68	0,80	0,87	0,87	0,86
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,70	0,96	1,28
	0 -0,81	-0,81	-0,37	0,21	0,62	0,68	0,98	1,28
D factors	0 -0,81	-0,81	-0,37	0,21	0,62	0,74	0,98	1,24
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,77	0,94	1,16
	0 -0,81	-0,81	-0,37	0,21	0,62	0,87	0,96	1,07
	0 -0,81	-0,42	0,10	0,52	0,74	0,87	0,87	0,90
	0 -0,81	-0,22	0,42	0,68	0,80	0,87	0,87	0,88
	0 -0,81	-0,01	0,46	0,68	0,80	0,87	0,87	0,86
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,70	0,96	1,28
	0 -0,81	-0,81	-0,37	0,21	0,62	0,68	0,98	1,28
Ok	0 -0,81	-0,81	-0,37	0,21	0,62	0,74	0,98	1,24
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,77	0,94	1,16
	0 -0,81	-0,81	-0,37	0,21	0,62	0,87	0,96	1,07
	0 -0,81	-0,42	0,10	0,52	0,74	0,87	0,87	0,90
	0 -0,81	-0,22	0,42	0,68	0,80	0,87	0,87	0,88
	0 -0,81	-0,01	0,46	0,68	0,80	0,87	0,87	0,86
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,70	0,96	1,28
	0 -0,81	-0,81	-0,37	0,21	0,62	0,68	0,98	1,28
Save data	0 -0,81	-0,81	-0,37	0,21	0,62	0,74	0,98	1,24
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,77	0,94	1,16
	0 -0,81	-0,81	-0,37	0,21	0,62	0,87	0,96	1,07
	0 -0,81	-0,42	0,10	0,52	0,74	0,87	0,87	0,90
	0 -0,81	-0,22	0,42	0,68	0,80	0,87	0,87	0,88
	0 -0,81	-0,01	0,46	0,68	0,80	0,87	0,87	0,86
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,70	0,96	1,28
	0 -0,81	-0,81	-0,37	0,21	0,62	0,68	0,98	1,28
- 10	0 -0,81	-0,81	-0,37	0,21	0,62	0,74	0,98	1,24
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,77	0,94	1,16
	0 -0,81	-0,81	-0,37	0,21	0,62	0,87	0,96	1,07
	0 -0,81	-0,42	0,10	0,52	0,74	0,87	0,87	0,90
	0 -0,81	-0,22	0,42	0,68	0,80	0,87	0,87	0,88
	0 -0,81	-0,01	0,46	0,68	0,80	0,87	0,87	0,86
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,70	0,96	1,28
	0 -0,81	-0,81	-0,37	0,21	0,62	0,68	0,98	1,28
+ 10	0 -0,81	-0,81	-0,37	0,21	0,62	0,74	0,98	1,24
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,77	0,94	1,16
	0 -0,81	-0,81	-0,37	0,21	0,62	0,87	0,96	1,07
	0 -0,81	-0,42	0,10	0,52	0,74	0,87	0,87	0,90
	0 -0,81	-0,22	0,42	0,68	0,80	0,87	0,87	0,88
	0 -0,81	-0,01	0,46	0,68	0,80	0,87	0,87	0,86
	0 -0,81	-0,81	-0,37	0,21	0,62	0,75	1,02	1,17
	0 -0,81	-0,81	-0,37	0,21	0,62	0,70	0,96	1,28
	0 -0,81	-0,81	-0,37	0,21	0,62	0,68	0,98	1,28

	0	0	0	0	0	0	0	0
Boost request	0	29%	29%	29%	29%	29%	29%	29%
	0	29%	29%	29%	29%	29%	29%	29%
	0	29%	29%	29%	29%	29%	29%	29%
	0	29%	29%	29%	29%	29%	29%	29%
	0	29%	29%	29%	29%	29%	29%	29%
Boost bias	0	29%	29%	29%	29%	29%	29%	29%
	0	29%	29%	29%	29%	29%	29%	29%
	0	29%	29%	29%	29%	29%	29%	29%
	0	29%	29%	29%	29%	29%	29%	29%
	0	29%	29%	29%	29%	29%	29%	29%
P factors	0	29%	29%	29%	29%	29%	29%	29%
	0	29%	29%	29%	29%	29%	29%	29%
	0	29%	29%	29%	29%	29%	29%	29%
	0	29%	29%	29%	29%	29%	29%	29%
	0	29%	29%	29%	29%	29%	29%	29%
I factors								
D factors								
Ok								

[illegible]

*Tuning common fuel maps*

Clicking the enrichment grid in the fuel screen will show a screen allowing editing of fuel related maps. The left side contains five buttons allowing modification of VE, Knock, afterstart and warmstart maps as well as the injector constant. Click a button (e.g. VE Map) and the data will be retrieved from the ECU. Now you can edit the values with the buttons on the bottom side. Select the cell(s) you want to change and use the -, -10, + and +10 buttons to increment or decrement the values in the cells. Save the data back to the ECU by clicking the "Save data" button. The progressbar will show the write progress. Selecting "Ok" will close the screen.

	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00
VE Map	0,50	0,52	0,57	0,65	0,71	0,73	0,74	0,86	0,92	0,96	1,03	1,18	1,21	1,23	1,32	1,39
	0,50	0,55	0,58	0,68	0,74	0,77	0,78	0,89	0,92	0,98	1,00	1,16	1,20	1,21	1,31	1,38
	0,50	0,57	0,61	0,70	0,75	0,77	0,79	0,86	0,91	0,95	1,00	1,13	1,18	1,21	1,28	1,34
	0,51	0,60	0,64	0,72	0,77	0,79	0,80	0,84	0,89	0,93	1,00	1,14	1,18	1,21	1,28	1,34
	0,50	0,58	0,63	0,70	0,77	0,78	0,79	0,84	0,89	0,91	0,97	1,12	1,17	1,19	1,28	1,34
Knock fuel	0,50	0,57	0,65	0,70	0,76	0,78	0,80	0,82	0,84	0,91	0,93	1,08	1,14	1,18	1,28	1,34
	0,50	0,59	0,63	0,71	0,75	0,77	0,78	0,81	0,83	0,89	0,94	1,05	1,09	1,12	1,23	1,32
	0,50	0,59	0,63	0,71	0,75	0,77	0,78	0,81	0,82	0,86	0,93	1,03	1,08	1,11	1,17	1,25
	0,53	0,59	0,64	0,71	0,75	0,77	0,78	0,79	0,82	0,86	0,89	0,97	1,03	1,07	1,14	1,23
	0,52	0,59	0,63	0,70	0,74	0,75	0,76	0,78	0,82	0,85	0,88	0,94	0,97	1,03	1,11	1,20
Injector constant	0,52	0,59	0,63	0,69	0,74	0,76	0,77	0,78	0,82	0,84	0,87	0,91	0,96	1,02	1,07	1,16
	0,54	0,58	0,62	0,68	0,73	0,74	0,75	0,77	0,80	0,83	0,86	0,89	0,93	1,00	1,05	1,14
	0,53	0,58	0,61	0,67	0,72	0,74	0,75	0,76	0,78	0,81	0,83	0,88	0,91	0,97	1,02	1,11
	0,53	0,58	0,60	0,67	0,72	0,73	0,74	0,76	0,77	0,80	0,82	0,86	0,90	0,96	1,01	1,10
	0,51	0,54	0,57	0,65	0,68	0,71	0,72	0,76	0,76	0,77	0,81	0,85	0,88	0,95	1,00	1,09
0,51	0,54	0,55	0,63	0,64	0,67	0,72	0,75	0,76	0,77	0,79	0,84	0,88	0,94	0,99	1,04	
Afterstart enrichment																
Warmstart enrichment																
Ok	Save data	-	- 10	+	+ 10											

VE Map	<input type="checkbox"/> 0 0 1,36 0 1,89 0 1,79 0 1,64 0 1,55 0 1,49 0 1,45 0 1,41 0 1,36 0 1,32 0 1,28 0 1,24 0 1,19 0 1,13 0 1,10
Knock fuel	
Injector constant	
Afterstart enrichment	
Warmstart enrichment	<input type="button" value="Save data"/> <input type="button" value="-"/> <input type="button" value="- 10"/> <input type="button" value="+"/> <input type="button" value="+ 10"/>
Ok	

*Tuning common knock maps*

Clicking the graph in the knock screen will show a screen allowing editing of knock related maps. The left side contains two buttons allowing modification of the knock sensitivity and knock counter maps. Click a button (e.g. Knock sensitivity) and the data will be retrieved from the ECU. Now you can edit the values with the buttons on the bottom side. Select the cell(s) you want to change and use the -, -10, + and +10 buttons to increment or decrement the values in the cells.

Save the data back to the ECU by clicking the "Save data" button. The progressbar will show the write progress. Selecting "Ok" will close the screen.

Knock sensitivity

Knock counter map

Knock limit map

Edit knock time

Save data

-

- 10

+

+ 10

Ok

*Tuning common ignition maps*

Clicking the graph in the ignition screen will show a screen allowing editing of ignition related maps. The left side contains three buttons allowing modification of ignition, warmup ignition and knock ignition maps. Click a button (e.g. Main ignition) and the data will be retrieved from the ECU. Now you can edit the values with the buttons on the bottom side. Select the cell(s) you want to change and use the -, -10, + and +10 buttons to increment or decrement the values in the cells. Save the data back to the ECU by clicking the "Save data" button. The progressbar will show the write progress. Selecting "Ok" will close the screen.

		-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00
Main ignition map	0	10,0°	11,0°	22,0°	30,0°	28,0°	30,0°	30,0°	25,0°	22,0°	22,0°	20,0°	14,0°	13,0°	12,0°	10,0°	10,0°	9,0°	8,0°
	0	10,0°	11,0°	22,0°	30,0°	28,0°	30,0°	30,0°	25,0°	22,0°	22,0°	20,0°	16,5°	13,5°	10,0°	9,0°	8,0°	7,0°	6,0°
	0	10,0°	11,0°	22,0°	30,0°	30,0°	28,0°	28,0°	25,0°	22,0°	20,0°	19,0°	14,5°	13,5°	9,0°	7,0°	6,0°	5,0°	4,0°
	0	10,0°	11,0°	22,0°	30,0°	33,0°	28,0°	28,0°	25,0°	23,0°	20,0°	17,0°	13,0°	13,0°	11,0°	6,0°	5,0°	4,0°	3,0°
	0	10,0°	11,0°	22,0°	30,0°	33,0°	28,0°	28,0°	26,0°	25,0°	21,0°	15,5°	11,0°	10,5°	9,0°	6,0°	5,0°	4,0°	3,0°
	0	10,0°	11,0°	22,0°	30,0°	33,0°	30,0°	28,0°	26,0°	25,0°	20,0°	14,0°	11,0°	8,5°	7,5°	6,0°	5,0°	4,0°	3,0°
Warmup ignition map	0	10,0°	11,0°	22,0°	30,0°	33,0°	30,0°	28,0°	26,0°	25,0°	20,0°	14,0°	11,0°	9,0°	7,5°	5,5°	4,5°	3,5°	2,5°
	0	10,0°	11,0°	22,0°	30,0°	33,0°	30,0°	28,0°	26,0°	25,0°	20,0°	13,0°	11,0°	8,0°	7,5°	5,0°	4,0°	3,0°	2,0°
	0	10,0°	11,0°	24,0°	32,0°	33,0°	30,0°	29,0°	27,0°	26,0°	21,0°	13,0°	10,0°	8,0°	5,0°	4,0°	3,0°	2,0°	1,0°
	0	10,0°	11,0°	24,0°	32,0°	33,0°	30,0°	30,0°	28,0°	25,0°	20,0°	12,0°	7,0°	6,0°	4,0°	2,0°	1,0°	0,0°	-1,0°
	0	10,0°	11,0°	24,0°	30,0°	30,0°	30,0°	29,0°	26,0°	21,0°	17,0°	9,0°	5,0°	3,0°	1,0°	-1,0°	-1,0°	-2,0°	-3,0°
	0	10,0°	11,0°	22,0°	29,0°	28,0°	29,0°	25,0°	23,0°	17,0°	14,0°	6,0°	2,0°	0,0°	-2,0°	-3,0°	-3,0°	-4,0°	-5,0°
Knock ignition map	0	10,0°	11,0°	20,0°	29,0°	28,0°	29,0°	23,0°	21,0°	16,0°	11,0°	3,0°	-1,0°	-2,0°	-2,0°	-3,0°	-3,0°	-4,0°	-5,0°
	0	10,0°	11,0°	13,0°	25,0°	26,0°	26,0°	23,0°	17,0°	13,0°	9,0°	2,0°	-1,0°	-2,0°	-2,0°	-3,0°	-3,0°	-4,0°	-5,0°
	0	10,0°	11,0°	10,0°	20,0°	20,0°	21,0°	20,0°	15,0°	10,0°	6,0°	2,0°	-1,0°	-2,0°	-2,0°	-3,0°	-3,0°	-4,0°	-5,0°
	0	10,0°	11,0°	10,0°	10,0°	17,0°	19,0°	18,0°	13,0°	8,0°	4,0°	2,0°	-1,0°	-2,0°	-2,0°	-3,0°	-3,0°	-4,0°	-5,0°
	0	10,0°	11,0°	10,0°	10,0°	17,0°	19,0°	18,0°	13,0°	8,0°	4,0°	2,0°	-1,0°	-2,0°	-2,0°	-3,0°	-3,0°	-4,0°	-5,0°
	0	10,0°	11,0°	10,0°	10,0°	17,0°	19,0°	18,0°	13,0°	8,0°	4,0°	2,0°	-1,0°	-2,0°	-2,0°	-3,0°	-3,0°	-4,0°	-5,0°

Save data

-

- 10

+

+ 10

Ok

		-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00	-1,00
Main ignition map	0 2,00	2,00	2,00	2,00	2,00	1,00	1,00	1,00	1,50
	0 1,00	2,00	2,50	2,00	1,00	1,00	1,00	1,00	1,50
	0 3,00	4,00	4,00	1,00	3,00	1,00	1,00	1,00	1,50
	0 2,00	2,00	2,00	1,00	1,50	1,00	1,00	1,00	1,00
	0 3,00	3,00	3,00	2,00	1,50	1,00	1,00	1,00	1,00
Warmup ignition map	0 4,00	3,00	3,00	2,00	1,50	2,00	2,00	2,00	2,00
	0 4,00	4,00	3,00	3,00	2,00	2,00	2,00	2,00	2,50
	0 5,00	5,00	5,00	5,00	3,00	3,50	2,50	2,50	2,50
	0 5,00	4,00	5,00	5,00	4,00	2,00	3,00	2,50	2,50
	0 4,00	4,00	5,00	5,00	5,00	4,00	3,00	3,00	3,00
Knock ignition map	0 6,00	4,00	5,00	5,00	4,00	4,00	2,00	2,00	2,00
	0 6,00	7,00	6,00	5,00	4,00	3,00	2,00	2,00	2,00
	0 5,00	5,00	5,00	3,00	3,00	3,00	3,00	3,00	3,00
	0 8,00	7,00	6,00	3,00	2,00	2,00	2,00	2,00	2,00
	0 0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	0 0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	Save data	-	- 10	+	+ 10				
Ok									



*Free editing of maps in realtime*

To be able to alter different settings as well (besides the frequently used maps that are directly accessible) a 'free editing' screen' has been made that can be handled with a touchscreen completely. Start the screen from the 'exit screen' by clicking "Free editing". The screen shown below will appear. Start typing the mapname you wish to edit or scroll to it by the scrollbar.



Double clicking the map will show the map editor which includes up/down buttons and a save button. This way you can edit every single map in the ECU!

	0	5	10	15	20	40	70	100
5000	1,05	1,13	1,23	1,35	1,45	1,60	1,75	2,00
4000	1,05	1,13	1,23	1,35	1,45	1,60	1,75	2,00
3000	1,05	1,13	1,23	1,35	1,45	1,60	1,75	2,00
2500	1,05	1,13	1,23	1,35	1,45	1,60	1,75	2,00
2000	1,05	1,13	1,23	1,35	1,45	1,60	1,75	2,00
1700	1,07	1,15	1,30	1,40	1,50	1,60	1,75	2,00
1350	1,07	1,15	1,30	1,40	1,50	1,60	1,75	2,00
1000	1,07	1,15	1,30	1,40	1,50	1,60	1,75	2,00

Save data
-
- 10
+
+ 10

## Logfiles

The dashboard automatically produces logfiles that can be imported in T5Suite. T5Suite can display the logs internally although it is recommended to export the file to LogWorks with T5Suite. The logfiles have an extension t5l and are kept in the working folder of the dashboard application.