TuneECU version 2.1

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Warning: Use of this software solution under certain circumstance can invalidate your warranty.

DISCLAIMER

Use of this software is at your own risk. Neither the software developer nor the website operator will provide any form of guarantee. Damages of any kind are the sole responsibility of the end user. Changing ECU injection mapping or using maps not legally allowed for your country is forbidden. Using this software to change ECU mapping is only for track and off-road use.

Contents

1	Introduction	;	2 -
2	Installation	:	3 -
	2.1 Required configuration	:	3 -
	2.2 Installing FrameWork 2.0 (XP only)	:	3 -
	2.3 Installing the Windows drivers	:	3 -
	2.4 Installing TuneECU	:	3 -
3	Using the Software	•	4 -
	3.1 Languages	4	4 -
	3.2 Connecting	4	4 -
	3.3 Manually connecting to the ECU	4	4 -
	3.4 Selecting a Mode	4	4 -
4	Diagnostics	4	4 -
	4.1.1 Dashboard	!	5 -
	4.1.2 Sensors	(6 -
	4.1.3 Error Codes	(6 -
	4.1.4 Status Bar	(6 -
5	Tests & Adjustments	'	7 -
	5.1.1 Keihin Mode	'	7 -
	5.1.2 Tests	'	7 -
	5.1.3 Adjustments (Keihin)		8 -
	5.1.4 Adjustments (Sagem)	- 1	8 -
6	Maps	- /	8 -
	6.1 Selecting a Map	\$	8 -
	6.2 ECU Information	9	9 -
	6.3 Map Tables	. – 1	9 -
	6.4 Map Parameters	. – 1	9 -
	6.5 Reading Maps	- 10	0 -
	6.6 Changing Values and Settings in a Table (advanced use)	- 10	0 -
	6.6.1 Editing Table Values	- 10	0 -
	6.6.2 Editing Map Parameters	- 1	1 -
	6.6.3 Comparing Maps	- 1	1 -
	6.6.4 Reprogramming the ECU	- 1	1 -
	6.6.5 Importing a PCIII / V Table	- 1	2 -
	6.6.6 Saving a Map	- 1:	2 -
	6.7 Editing Tables	- 1:	2 -
	6.8 Displaying Maps Graphically	- 1:	2 -
	6.8.1 Comparing Maps Graphically	- 1:	3 -
	6.8.2 Comparing Maps Graphically for a Given RPM	- 1:	3 -
	6.8.3 Comparing Maps Graphically for a Given Throttle Position	- 1:	3 -
7	Viewing Information Logs	- 14	4 -
8	Viewing History (Sagem)	- 14	4 -
9	- Resetting Adaption (Keihin) and Reset Throttle Position Sensor (TPS) Sagem	· 14	4 -
	9.1 Keihin Triumph	- 14	4 -
	9.2 KTM	- 1/	4 -
	9.3 Aprilia & Triumph Sagem	- 14	4 -
10	Erasing Error Codes	- 14	4 -
11	Options	- 1!	5 -
	11.1 Auto-Connect	- 1!	5-
	11.2 Interrace	- 1!	5 -
- 12	Exiting the Program	- 1!	5 -

1 Introduction

TuneECU is software to program, diagnose, and test the Sagem & Keihin engine control units (ECU) that are used by some Aprilia, Triumph, and KTM motorcycles.

The software is available for the following models with injection systems:

Aprilia Caponord and RST Futura Triumph 3 & 4 cylinders (all EFI models) Triumph twins (all EFI models) KTM 690 / 990/ 1190 Benelli 900 Tornado models

The manual, software and mapping files and other usefull information are available here:

- http://www.box.net/shared/pusg6v7nyd
- http://www.tuneecu.com

Software is FREE It can be given only FREELY

2 Installation

2.1 Required configuration

PC (Netbook, laptop, desktop) running Windows XP, Vista, or 7; minimum screen resolution 1024x576

NET Frameworks 2.0 or greater

USB/OBD cable with FTDI chipset and the driver FTDI D2XX CDM Driver: PLEASE REFER TO TUneECU.com for the proper current driver to use.

2.2 Installing FrameWork 2.0 (XP only)

NET Frameworks 2.0 http://www.microsoft.com/downloads/details.aspx?FamilyID=0856eacb-4362-4b0d-8edd-aab15c5e04f5&DisplayLang=en Execute dotnetfx.exe and follow the instructions.

2.3 Installing the Windows drivers

Windows 7 and Vista users: MAKE SURE YOU ARE *NOT* connected to the internet. Disconnect any WIFI or Ethernet cable. Otherwise Windows will download the latest driver automatically, which may not be compatible with TuneECU.

- 1. Plug the cable into a USB Port.
- 2. The PC will open the Found New Hardware Wizard to install the USB/Serial driver:

Welcome to the Found New Hardware Wizard Vindom mill each for current and updated software by looking on your computer, on the hardware installation CD, or on the Vincows Update Web site (with your permission). Freed our privace policy
Can Windows connect to Windows Update to search for software? O Yes, this time only O Yes, now and every time I connect a device @ Ns, not this time
Click Nest to continue.

- 3. Choose "No, not this time" for the connection to Windows Update.
- 4. Click Next. You see this screen:



5. Under the checkbox for "Include this location in the search... ", select the path where you have downloaded and saved the drivers.

6. Click Next.

7. The USB driver is installed. Click Finish when complete.

8. Repeat the above steps for the serial driver.

2.4 Installing TuneECU

- 1. Download TuneECU from TuneECU.com and extract the ZIP file.
- 2. Copy TuneECU.exe and TuneLibrary.dll into a directory on your hard drive. For example C:\TuneECU.
- 3. Download the appropriate (.hex) map files for your bike from TuneECU.com.

3 Using the Software

3.1 Languages

Opt	ions					
~	Auto-connect		_	_	_	-
	Interface		2	3	4	
	Language	+	~	English		
	11000			French		
	10000			Germa	n	
	9500			Italian		
	8500			Spanis	h	

The software is available in French, English, German, Italian, Portuguese and Spanish. The default language is set based on your windows system language. You can change it using the **Language** submenu under **Options**.

3.2 Connecting



Connect the USB/OBD cable to the ECU connector on the motorcycle, and the USB side to the computer. Turn the key to the ON position and the ignition kill switch to the RUN position, but do not start the engine. Start TuneECU and wait for the connection to be established. You can monitor the connection with the indicator at the bottom-right corner of the screen.

- Red not connected
 - Orange connecting Green – connected

3.3 Manually connecting to the ECU

ECU	Options	
C	Ionnect	
_		

If the connection to the ECU is not automatic, select **Connect** from the **ECU** menu.

3.4 Selecting a Mode

TuneECU h	nas 3 modes	:
		_ 🗆 X
Map Edit	Diagnostics	Tests

- Map Edit: Editing and programming ECU maps
- Diagnostics: Checking the sensors for engine management
- Tests: Adjustment and testing of certain component of the motorcycle

The mode selection is done by clicking the proper button

4 Diagnostics Triumph



ктм







4.1.1 Dashboard

This screen will have a slightly different presentation between Sagem and Keihin ECUs. The analog gauge displays the following indicators. (Note, not all sensors are available on all bikes.)

9 56	Cooling fan On/Off
ς Ω	Malfunction in the MIL system (EFI light on Caponord/Futura)
	Fall-over sensor
2	Neutral (N)
S	Side stand (S)
	Speed indicator
0	Engaged gear number
0 min-1	Engine RPM

3 dial (Analogue/Digital)

Throttle position sensor in %	\ 40 60 / ²⁰ 0 785 - − 0 100-	
MAP (manifold air pressure) in hPa (Keihin) Ignition advance (Sagem)	40 60 / 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	64 64- Sagem
Engine temperature in °C.	× 80 / × 60 * c 100 -25 € - -40	·

4.1.2 Sensors

The values, state, or voltage (V) of all other sensors are listed on the left side of the display. Move your mouse over the value and a highlighted text will give you a definition of the value.

Triumph	KTM	Aprilia	Benelli
Sensor:	Sensors	Sensors	Sensors
□ Injection Pulse 0.000 0.000 0.000	Injection Pulse	Injection Pulse 1.078 1.091	□ Injection Pulse
Ignition Timing	🗆 02 Sensor	Ignition Coil	Ignition Coil
Temperature	🖃 Manifold Pressure	0.634 0.631 0.634 0.635	
-25 °C 5,00 V 5,00 V		10.6 0.20 V	
O2 Sensor	🖂 Ignition	O2 Sensor	
1,275 V 0 % 0 % 0 %		0.470 V 0.0	O2 Sensor
🖂 Idle	Throttle	🖸 Idle	
1350 tr/min 0 % 0 0		1620 0 50.8 % 55	🗆 Idle
🖂 Throttle	🗆 Idle	🖂 Long Term Fuel Trim	
16,9 0,04 ¥		-1.2 %	🕞 Long Term Fuel Trim
🖃 Exhaust Valve	Temperature	E Temperature	
0 % 2,54 ¥		18 °C 2.96 V 2.98 V	Temperature
Barometric 1013 hPa 5,06 V 0,15 V	🖻 Barometric	Barometric 1035 hPa	Barometric
C Engine Load	🖻 Engine Load	E Engine Load	Engine Load
Fuel Level 2,37 V	Security	🖸 Fuel Level	Fuel Level
🗆 Other	🗆 Other	C Other	C Other
Clutch SAI Fuel Punp Main Relay Start Reay Start Switch Air Flap O2 Sensor	Clutch SAI Puel Pump Main Relay Start Kelay Start Switch O2 Sensor O2 Sensor (2)	Glutch SAI Fuel Pump Main Relay Start Relay Start Switch	Clutch SAI Fuel Pump Main Relay Start Relay Start Switch

Note:

To hide a sensor display, click the - sign \square . The icon will become a +. Click the + to re-enable the sensor readings. The display will refresh faster when fewer sensors are displayed.

4.1.3 Error Codes

Error Codes	Description
P0031	Oxygen sensor heater short circuit to ground or open circuit

Lists the error code(s) currently stored in the ECU and a short description of each.

4.1.4 Status Bar

The status bar at the bottom of the screen shows some general information.

Battery Voltage Note: At least on Caponord/Futura, the displayed voltage is about 0.5v more than at the battery. This difference is also present on other tuning software.	🚰 12,3 V
O2 Sensor (Closed or Open Loop) If the bike has an O2 Sensor, this icon will show if the system is operating in closed-loop or open-loop mode.	4
TPS (Throttle Position Sensor)	
Connection Status (Red-Orange-Green)	
Name of the open map (Tune)	\20154Map.hex

5 Tests & Adjustments



5.1.1 Keihin Mode

In this mode, only 3 small dials of the dashboard are active, providing the value of the vacuum intake (Manifold Absolute Presure) of the corresponding cylinder (Keihin only), thus providing reference values for syncronising butterfly valve (throttle) opening.



5.1.2 Tests Not all tests are available on all motorcycles. Test components of the motorcycle.

Test	Description	Triump h	ктм	Aprilia	Benelli
Tachometer	Turn on sequentially all lights, engine temperature chart, speed to 100km/h, tachometer to 7500rpm	Keihin	Yes Only Tach o To 7500 rpm	Yes Only Tacho To 5000 rpm	
Cooling Fan	Starts the cooling fan – listen for the fan noise	Yes	No	Yes	
Fuel Pump	Prime the fuel pump – listen for the fuel pump noise	Yes	Yes	Yes	
Idle Stepper	Cycle through the idle stepper – listen for a very quiet ticking noise	Yes	Yes	Yes	
Purge Control Valve	(Only bikes with charcoal canister) Activate the purge valve – listen for a very quiet noise	Yes	Yes	Yes	
SAI	Secondary air injection system	Yes	Yes	No	
Sonde O2	O2 sonde heater - see in Diagnostics	No	Yes	No	
Air Flap	Air flap (675 Daytona) located in the air intake towards the front	Yes	No	No	
Exhaust Valve	Exhaust valve (675 Daytona) located in the exhaust	Yes	No	No	
Adjust EXBV	Adjust the exhaust valve – when you change the cable	Yes	No	No	
Adjust ISCV /TPS	Keihin(exept KTM) It is done in several steps. Read the workshop manual. The third dial shows the voltage (V), allowing the adjustment of the position and adjustment of the controller.	Keihin	No	No	
Reset Adaption	See the procedure in the "Resetting the Throttle Position Sensor (TPS)" section for Keihin.	Keihin	No	No	
Ignition Coil	Excitation of the coils hear or see if sparks will appear at the spark plugs. ***	No	Yes	No	
Injectors	Several triggers hear the function	No	Yes	No	
2nd Throttle	Test the $2nd$ throttle function only (Triumph Rocket & KTM)	Yes	Yes	No	
Reset TPS	Sagem: Recalibrate the throttle position sensor, Double-click the Reset TPS button	Sagem	No	Yes	
Idle Fuel Trim (CO)	Adjust the idle fuel trim (Triumph without O ² -Sensor only)	Sagem	No	Yes	
Adjust IACV (Stepper Motor)	Triumph Sagem Double-click to IACV. It is possible to reset these two last parameters by right-clicking the arrows active during the adjustment.	Sagem	No	Yes	
Long Term Fuel Trim	Adjust the long term fuel trim (Sagem) Triumph models with O ² -Sensor only	Sagem	No	Yes	
Adjusting the throttle cable	The idle speed control stepper motor will be completely retracted and the throttle valves completely closed. Switch the ignition switch off, WITHOUT exiting or disconnecting the software, and adjust the throttle cable clearance.	No	Yes	No	

*** Warning: the metal part of the candle must be in contact with the mass of the bike under threat of destruction of the coil.

5.1.3 Adjustments (Keihin except KTM)

Adjust the exhaust valve: Refer to the workshop manual. The third dial displays the position of the valve in % during this adjustment.

Reinitialisation of the idle stepper motor: It is done in three steps. Read the workshop manual. The third dial shows the voltage (V), allowing the adjustment of the position and adjustment of the controller.

Reset Adaption (Reset TPS): See the procedure in the "Resetting the Throttle Position Sensor (TPS)" section.

KTM only

Adjusting the throttle cable : The idle speed control stepper motor will be completely retracted and the throttle valves completely closed. Switch the ignition switch off, WITHOUT exiting or disconnecting the software and adjust the throttle cable clearance.

5.1.4 Adjustments (Sagem)

Reset TPS: Recalibrates the closed throttle position to a zero reading. After the reset, restart the engine and idle for at least 30 seconds.

Idle Fuel (CO): Double-click to access this adjustment. Allows adjustment of the fuel trim at idle.

Long Term Fuel Trim: Double-click to adjust the parameter.

Adjust Stepper Motor: Double-click to adjust the position of the idle stepper motor.

It is possible to reset these two last parameters by right-clicking the arrows active during the adjustment.

6 Maps

(Not available in the Lite Version.)

Fuel/Ignition maps of file type ".hex" are generated by reading the ECU, and available on the website (www.tuneecu.com). You must select a map that corresponds to your model of motorcycle and its configuration (type of exhaust for example). From the **Display** menu, choose **Map Infos** to see comments and the basis of the map (in parentheses).



6.1 Selecting a Map



From the File menu, select Open Map File. The map's data appears in a grid.

Turnet Con										_		_					_				
in Edit Uniplay ECU Of	kions									TR	UM	EH							Diag	noites	Tel
NA - NI KEL	And in case	-	-	-		_	-	-	_	ALC: N	11 HATT		-	_	_	_	_	-		-	-
ECUInfos - Keihin	ALC: N	1	1.1	1						1		1.00	100	100			50	50	70	78	1.312
Senal: 072232314%	14100	100	1997	20		1.00						1	224			3435	4145	4714	5177	Sect	100
Map 20154	13000	100	100	100	125							2.24			THE .	3542	4495	5177	5785	40.00	
Deckaus. P DIAL / 455	12000	24	124	100								100		- 225	1284	4011	4625	1000	-6048	CT.	10
PRESIDE .	11000		100		100							-		100	200	4125	4050	100		1.00	
Table II	10000	19.2	1.1	-								100		-24	-101	41.22	1000	1110	-	Sec.	
TADR - FI	5000		100											100	1	100	100	BURN .	1223	ALC: N	
87	10500												1005	1047	10.00		4547	-	5120	Stati	-
83	5000	100	76			100							100	14.16	1000	4087	4522	45.95	4542	ANNUT	1
E of Tax	752.00					-	100			1.00		1.1	12134	18.35	2012	41.37	4467	4940	4957	4718	10
ride free	7000			100		100		100		1.00	100		100	1200	2254	41.00	4297	4461	4470	4505	-
17	1500	20	200	1942	1004	1110		100	100	100.0	COMP.	1000	2236	2775	4051	4270	4461	4509	4568	4643	
13	100	843	100.7	2.34	1212	1100			15.0	1000	100		2439	2673	4140	4458	4504	8700	#905	4064	41
15		-	100	100	100		2.004	100	199	100	100	3125	3691	4068	4292	4527	4785	4994	5031	5075	50
10	100	100	1.00	100			100	100	1111		100	3120	3633	4242	4416	4767	4527	5160	5230	5207	12
Laurent Bar	1000		100		-		1000	1040		2234		14.5	2525	4329	4549	4855	5048	5270	5432	50	23
(grant and a second sec	ALC: NO		-			1.00					2010	3430	4023	4402	4682	4344	明朝	545	2545	220	-
agrice land	1.00								100		2166	2.4	4071	4468	4015	5032	500	100	1.00	3674	. 2
Ar Think											1000	1744	4152	44.99	4000	5122	100	-	100	225	2
1de	-								and the second		1000	100	100	4015	91.28		1000		100	and a	
Futured Value											-	-	4417	4015	61214	100	100	100	-	ALC: NOT	
Linker rate									The state of the s		100	1041	8323	4,700	10.001	-	1.000		6717	1000	-
Reparent										1016	-	1641	100	CTW.T	2975	4114	4149	41116	2507	4050	
Barry Limit Grand L		1.00			199		1000	100	1000	100	110	20.02	1000	12000	1220		1000	1000	2215	3164	
There for DO: 100	11111	1000	1100		100.0		100	COMPANY.	COMP.		-2019		2014	Seat.	1000	Personal Person in the			100	1000	
Sneed Adust (%) ISS	1400		1.879	1.00	24.8	1200	100	100	Bank	222	1000	100	100		3015	-		1.1	1000		E
Intella Dan (mail 1990)	1.00	100	100	1100	10.04	2162	223	100		719	Real Property	100	100	388	3019	10.00	100	THE?	3082	3146	01
Rear	100		10.000	100	100	2564	1222	100	Contract of	2255	2015	CONTRACT	100	312	100	1000	10.00	1157	3255	3019	122
15 sharet Value	1111	100	100	100	1200	100	100	100		3275	100		100	2077	3128	1150	215	100	3301	1.18	183
Con Samo	100	200	100	1000			100	100		7764	THE		3TM		100	728	120	3294	3310	3045	39
The second	1.00		100	100		2020		100	100	22		100	100		DATE:	3003	3115	12	11.38	10161	

6.2 ECU Information

🗆 ECU Infos -	Keihin
Serial :	0222321149
Map :	20154
Checksum /P :	D3A1 / 459

Serial number Map ID Checksum and a counter how many times the ECU was reprogrammed.

6.3 Map Tables

F1 F2 F3 F4	F1 – F4: main fue mapping switch o	el table for cylinder 1 to 4 / RPM & butterfly opening or F3-1 corresponding to the position of the n the KTM 690.	
Fuel Trim	Fuel Trim: Adjust	ment for the Fuel table F (in %) , or Right click on a F table if not visible.	
L1 L2	L1-4: Fuel table for the small butterfly opening / RPMs & air pressure or L3-1 for KTM690		
L3 L4 I1 I2 I3 I4 Ignition Trim	I: Ignition advanc	advance table I3-1 and I LOF (Low Octane Fuel) for KTM690	
A/F Table	Air/fuel	Air/fuel ratio (AFR)	
ldle	ldle	Engine Idle by temperature	
Exhaust Valve	Exhaust Valve	(Daytona 675) Position of the exhaust valve / RPM.	
Second Throttle	Butterflies	(Rocket III & amp; KTM) Position of the secondary butterflies	
F-L Table	Transition F – L	F to L transition and inversely / RPM and throttle opening	

6.4 Map Parameters

Not all parameters are available on all bikes.

E Parameters		
😩 Rev. Limit (rpm) :	13800	Rev limit (RPM)
The mo Fan (°C) :	103	Cooling fan temperature trigger
Speed Adjust (%) :	0,0	Speedo Adjustment in % (0% = no correction)
 Intake Flap (rpm) ; 	900	Speed Limit (Rocket III)
SAI		
Exhaust Valve		
O2 Sensor		

NOTE: Unlike some other tuning software, TuneECU lets you only change one value for Rev Limit and Thermo Fan. That is, you cannot specify both ends of an on/off range for these settings. The range is fixed, but you can adjust the trigger point, changing the RPM or temperature at which the fixed range of values applies.

For example:

Thermo Fan = 106. The fan will come on at 106. It will shut off again at 100. (The range of six degrees cannot be changed, but the start point of 106 can be.)

Similarly, the RevLimit setting has accompanying on/off parameters that cannot be changed, although the main limit setting can.

Rev Limit = 10,000 RPM

- Restart Normal Fuel -50 RPM = 9950 RPM
- Increase Fuel Cut +100 RPM = 10.100 RPM
- Kill All Fuel +200 RPM = 10,200 RPM

6.5 Reading Maps

For a Keihin ECU, this operation may take 20 minutes. You must remove the headlight fuse to prevent the discharge of the battery. Your battery must be fully charged before doing any mapping work -- ideally connected to a battery tender.

You must have a map loaded from a .hex file for TuneECU to allow you to read a map from your ECU. Follow the direction in "Selecting a Map". KTM 690 on select maps to play (FI or EP).

Choose Read Map from the ECU menu.

ECU	Options	TuneECU	\mathbf{X}
1	Connect	2) Map : 20154 (20152)	
)	listory	Proceed reading ?	
j.	Read Mag	OK Annuler	1

This reads and displays the map in the ECU. Before doing anything else, save this map.

Be sure to save the map to your hard drive.

Reading time may be significantly reduced if a map with the same base is already open in the program. The base is indicated in parentheses.

Reading progress is visible in the status bar in the bottom

🕼 12,3 V 🥜 The 🗆

The operation can be canceled by clicking on the Close button. The map must be saved in order to reprogram the ECU.

6.6 Changing Values and Settings in a Table (advanced use)

It is not recommended to change tables of Fuel or Fix F & I. The map is already optimized depending on your basic configuration. However, if you have a dynamometer, it is always possible to adjust the values for a better performance of your particular engine. Other tables can be modified according to your preferences: idle, valve exhaust, and air/fuel, knowing that better power is obtained with an AFR value of 12.8, and lower fuel consumption achieved at 14.7.

6.6.1 Editing Table Values

8950	1287	1438	1589	1740
8450	1285	1437	1588	1740
8050	1283	1435	1587	1739
7650	1292	1442	1591	1741
7300	1301	1449	0%	\$ 744
7000	1308	1454	1599	1745

Select the value by a single click. Multi select is possible. Change the value with the up/down button.Use the arrow keys from the keyboard, you can jumping from version 1.8.5 from a single selected cell in the adjacent cell. The change can be absolute or in % on the F & L table. F4 key allows to switch between modes. Le value before modification can be display using the F6 key.

1984	2607	2842	3182	337
2022	2623	2912	3210	337
2144	2754	2995	3275	344
2231	2897	2102	2212	261
2331	0 :	Cop	ier	
2455	308	rial	de .	
2589	314		-	-

3706	4086	4989	6241	7022
3697	4086	5077	6410	7124
3770	4134	5526	6663	7269
3734	428	Co	niar	
3940	0.2	co	Dires.	_
3959	4690	Col	ler	

One or Multiple cell can be copy/pasted, after selection - right click to access the copy/paste menu

Select the first cell or multi select the value to be pasted and Right click.

Note: The values that have changed in the table, are shown in white color. (Version 1.8.5)

6.6.2 Editing Map Parameters

Parameters		
😩 Rev. Limit (rpm) :	13800	
The mo Fan (°C) :	103	
Speed Adjust (%) :	0,0	Double-click on the parameter.
Intake Flap (rpm) : SAI Exhaust Valve 02 Sensor	900	Use the <esc></esc> key to undo the changes. Otherwise the new values are automatically saved.

6.6.3 Comparing Maps

File	Edit Display	From the File menu, select Compare File.
1.12	Open Map File	
1	Compare File	Select a different map for comparison. Pressing the <f6></f6> key to view the values.
	Save Map File	To exit the comparison mode, select this menu again and to cancel the selection of the file.

6.6.4 Reprogramming the ECU

Your battery must be fully charged before doing any mapping work -- ideally connected to a battery tender, better yet a second 12 volt battery from a car Your laptop must be connected to the power supply.



Attention! For KTM 690: The FI and EP mapping must match on a KTM 690. <u>For the KTM 690 both cards are always required (FI and EP-Map)</u> FI is a acronym for EFI = Electronic Fuel Injection / EP is a acronym for EPT = Electronic Power Throttle

Download progress is visible in the status bar.

💭 12,3 V 🕜 TRS 🗖 🔤



At the end of the download message confirms that the operation was successful

6.6.4.1 Failure to Download



1. Click OK.

- 2. Do not disconnect the cable.
- 3. Turn off the ignition.
- 4. Turn on the ignition.
- 5. Wait for TuneECU to connect to the ECU.
- 6. If the Download button is green, start the download again. If not, wait for the recovery option to appear.

6.6.4.2 Recovering from a Download Failure



The recovery option should start automatically. If it does not, go to the **ECU** menu, and select **Recovery**.





At the end of the download, a message confirms that the operation was successful.

6.6.5 Importing a PCIII or PC-V Table (PowerCommander 3 or 5)

File	Edit	Display	EC
	Open	Map File	
	Comp	are File	
	Save	Map File	
	Impor	t PCIII Tab	le

<Menu> File-Import PC Table (.djm table or .pvm table): Applies *F-corrections* from a PCIII or a PC-V table in the "F-Trim" table. If available the** Ignition table** will be imported into the I Trim table.

* includes support of "cylinder Advanced" feature, but not the "Gear Advanced", in this case you must choose the "Gear" table to import.

** Only the first Ignition table will be imported.

For KTM User:

TuneECU follows the KTM convention, and commits the Trim 1 to F1 (F1 in TuneECU = rear cylinder). **PowerCommander** not follows the KTM convention, in the cyl. selective PCIII- or PC-V map the table1 is the front cylinder.

You must change the values in the PCIII- or PC-V Map before you import the cyl. selective PCIII or PC-V map with TuneECU.

6.6.6 Saving a Map

File	Edit Displ	ay
	Open Map Fil	le
	Compare File	
	Save Map Fil	è

From the File menu, select Save Map File

The modified map is saved as a .hex Map file.

6.7 Editing Tables

Edit	Display	ECU	Options	
1	Copy Table	6		
Paste Table Use "F Trim" for all F Tables				

When working with map tables, the Edit menu contains these choices for moving blocks of table data among maps:

Copy Table: Copies the table selected in the Clipboard.

Export Table: Exports the selected table to a text file.

Paste Table: Replaces the table selected by the one in the clipboard if the same type.

Use "F Trim" for all F Tables: For all F tables, change in whole tables F or separately.

Commit Trims: Corrects F fuel tables in %, and I ignition tables in °, according to the correction tables F & I, then puts zero values.

6.8 Displaying Maps Graphically

Display		ECU	Options
~	Graphic		PS

To see a graphic representation of the table, select Graphic from the Display menu, or press <F5>.



6.8.1 Comparing Maps Graphically

While comparing maps, press **<F6>** to see the comparison graph, represented with dotted lines Press the **<F4>** to switch to mono or multi curves.



6.8.2 Comparing Maps Graphically for a Given RPM

Click on any RPM to see a comparison between the two maps. Drag the mouse up and down the RPM range to see the display change in response.



6.8.3 Comparing Maps Graphically for a Given Throttle Position

Click on any throttle position to see a comparison between the two maps. Drag the mouse up and down the throttle range to see the graph change in response.



7 Viewing Information Logs



Select **Logs** from the **Display** menu to see an overview of the dialogue between the software and the ECU.



8 Viewing History (Sagem)

Options
Connect
History

From the **ECU** menu, select **History**. You see a windows with the logs of the latest maps loaded into the ECU

9 Resetting Adaption (Keihin) or Throttle Position Sensor (TPS)Sagem

9.1 Keihin Triumph

After each download, a "reset Adaption" is needed.

- 1. Turn the ignition off and back on again.
- 2. Wait 10 seconds and turn the ignition off again.
- 3. Turn the ignition on and select Reset Adaption from the ECU menu.

ECU	Options	
	Disconnect	
	History	
	Read Map	
	Download	
	Recovery	
Reset Adaption		
	Erase Error Codes	

Start the engine and let it idle until the TPS light in the status bar becomes green - around 10 to 15 minutes.

9.2 KTM

After downloading a FI-map, start the engine and let runnig it idle (without touching accelerator) for 15 minutes, then turn it off.

After downloading a EP-map, Following a mapping download into the ECU, turn off the ignition (key), turn on the ignition, slowly rotate the Throttle until full throttle then slowly close the throttle, turn off the ignition.

9.3 Reset TPS Aprilia & Triumph Sagem

1. In the Test mode, double-click Reset TPS.

Reset TPS

- 2. Turn off the ignition.
- 3. Turn on the ignition.
- 4. Start the engine and let it idle for one minute without touching the throttle.

10 Erasing Error Codes



You can clear stored error codes from the ECU by choosing **Erase Error Codes** from the **ECU** menu while in Diagnostics or Tests modes. The issues that caused these codes must have been corrected, or the error code will reappear.

11 Options

11.1 Auto-Connect

Options		
~	Auto-connect	

The **Auto-connect** option is found on the **Options** menu. If this option is checked and the cable connected, the program automatically connects to ECU. By default, the auto-connect setting is enabled

11.2 Interface

From the **Options** menu, select **Interface** to see the interface used to connect to the ECU. Connect only a single interface cable.

12 Exiting the Program



To close TuneECU, select **Exit** from the **File** menu. This action is not possible if a download is in progress.