AiM Infotech

EFI EURO 2 V006, V009 and V061 ECU

Release 1.03

ECU

1
Supported models and years

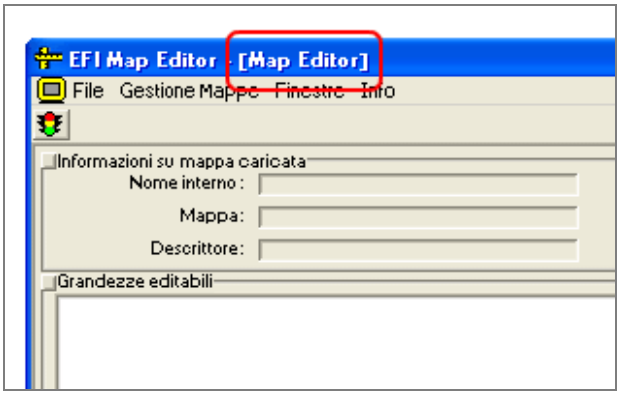
This tutorial explains how to connect EFI EURO 2 ECUS to AiM devices. Supported ECUs are:

- EURO 2 V006
- EURO 2 V009
- EURO 2 V061

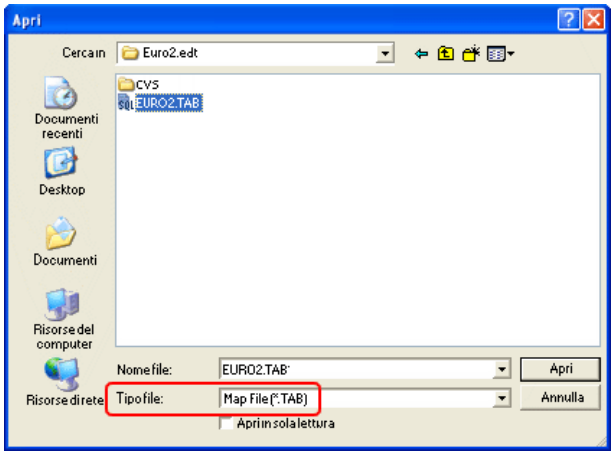
2
Software setup

EFI EURO 2 ECUs come with the dedicated ECT_MOD software to be used for setting the ECU.

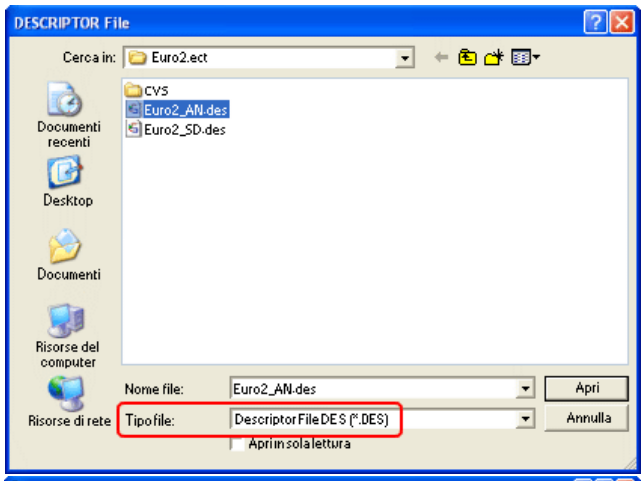
- Run the software
- Open Map Editor as shown here on the right



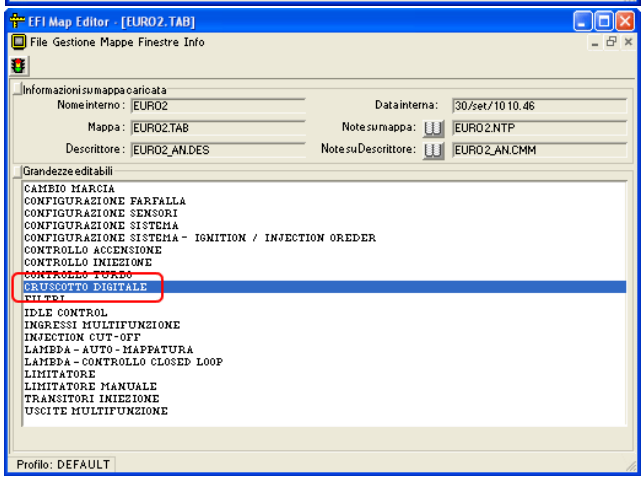
- Select file type "Map File" and load the related EURO 2 file.



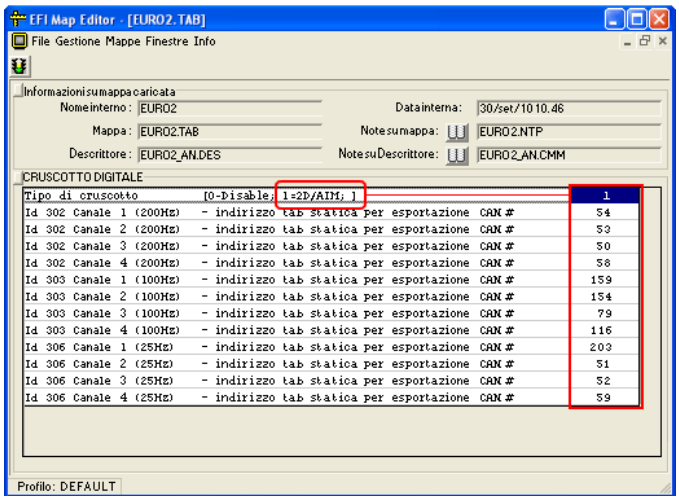
- Select file type "Description file" and load the related EURO 2 file

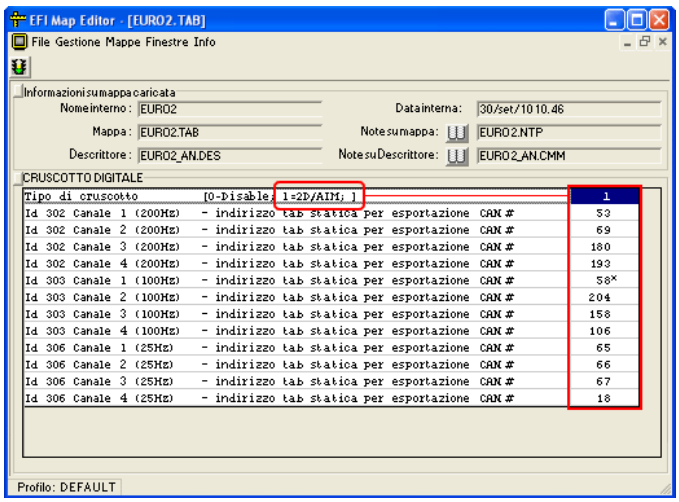


- Open "Digital dashboard" table. Please note: the image on the right is only available in Italian.



To enable "2D/AiM" protocol set the first row on "1" as shown in the images here below. Afterwards you need to fill in the address codes in the rows indicated. Images here below shows on the left EURO_2_V006 address codes and on the right EURO_2_V009 address codes.





*= Gauge boot (1bar gauge=200mbar).

The following table shows description of EFI EURO2_V006 "Address Codes".

CODE	CHANNEL DESCRIPTION
54	RPM
53	AFRNGK – Lambda
50	TPS – Throttle position sensor
58	MAP – Manifold Air Pressure
159	CLC1 – Closed loop fuel trim 1
154	LRN – Linear
79	SA – Spark Advance
116	TEROG – Injection Time
203	Shift
51	WATER TEMP – Water temperature
52	AIR TEMP – Air temperature
59	BARO – Barometric Pressure

The following table shows description of EFI EURO2_V009 "Address Codes".

CODE	CHANNEL DESCRIPTION
53	AFRNGK – Lambda
69	SMOT
180	DC Boost Base
193	DC Boost
58	Gauge Boost (1 bar Gauge =2000 mbar)
204	Shift
158	Close loop flag
106	Injection phase
65	Output 3
66	Output 4
67	Output 5
18	TAB

The following table shows description of EFI EURO2_V061 "Address Codes".

CODE	CHANNEL DESCRIPTION
23	LNR3I (not used)
24	LNR4I (not used)
30	VbattDir – Battery Direct (+30)
31	VbattKey – Battery Switched (+15)
51	TH2o – Water Temperature
52	TAir – Air Temperature
56	AFRNGK1_Log – Lambda
59	Baro – Barometric Pressure
154	KFuelLearn – Fuel learn Trim
159	CLC1 – Closed loop fuel trim 1

3
Wiring connection

EFI Euro2 ECU features a bus communication protocol based on CAN on the 35 pins front male connector. Here below is connection table.

EFI connector pin	Pin function	AiM cable
22	CAN High	CAN+
6	CAN Low	CAN-

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 “EFI_EUROPE”
- ECU Model
    - "EURO_2_V006 or
    - "EURO_2_V009"
    - "EURO_2_V061"

4
Available channels

Channels received by AiM devices change according to the selected protocol.

4.1
"EFI EUROPE" "EURO_2_V_006" protocol

Channels received by AiM devices connected to "EFI EUROPE" "EURO2_V_006" protocol are:"

ID	CHANNEL NAME	FUNCTION
ECU_1	E2_RPM	RPM
ECU_2	E2_LAMBDA	Lambda sensor
ECU_3	E2_TPS	Throttle Position sensor
ECU_4	E2_MAP	Manifold Air pressure
ECU_5	E2_CLC	Closed Loop Control
ECU_6	E2_LEARN	Linear
ECU_7	E2_SPARK_ADV	Spark Advance
ECU_8	E2_TEROG	Erogation time
ECU_9	E2_SHIFT	Shift
ECU_10	E2_T_H2O	Engine coolant temperature
ECU_11	E2_T_AIR	Intake air Temperature
ECU_12	E2_BARO	Barometric Pressure

Please note: this Race Studio 2 configuration works only with EFI Euro_2_V_006 customizable channels. This is why the channels list is so poor. To have more channels V_009 ECU version is needed.

4.2 "EFI_EUROPE" "EURO_2_V_009 " protocol

Channels received by AiM devices connected to "EFI EUROPE" "EURO2_V_009" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	WALBRO_RPM	RPM
ECU_2	WALBRO_SPEED	Speed
ECU_3	WALBRO_TPS	Throttle position sensor
ECU_1	E2_RPM	RPM
ECU_2	E2_TPS	Throttle Position Sensor
ECU_4	E2_MAP	Manifold Air Pressure
ECU_5	E2_LNR1L	Analogic linear input 1
ECU_6	E2_DWARF	Throttle derivative
ECU_9	E2_AE	Fuel enrichment for positive TPS transient
ECU_10	E2_LNR2L	Analogic linear input 2
ECU_11	E2_AFRNGK	Lambda sensor
ECU_12	E2_SMOT	Smot
ECU_13	E2_DC_BOOST_BA	DC Boost Base
ECU_14	E2_DC_BOOST	DC Boost
ECU_15	E2_BOOST	Boost gauge
ECU_16	E2_SHIFT	Shift
ECU_17	E2_CLOSE_LOOP	Close loop
ECU_18	E2_INJ_PHASE	Angle sensor
ECU_19	E2_TEROG_BASE	Injection table - injection time
ECU_20	E2_TEROG	Real Injection Time
ECU_21	E2_SA_BASE	Ignition table - spark advance
ECU_22	E2_SA	Real spark advance
ECU_23	E2_AFRNGK1_LOG	AFRNGK1_LOG
ECU_25	E2_KFUEL_LEARN	Fuel correction coefficient for auto mapping

ECU_26	E2_CLC1	Closed loop control 1 (injection)
ECU_27	E2_TH2O	Engine coolant Temperature
ECU_28	E2_TAIR	Intake air Temperature
ECU_29	E2_OUT3	Output 3
ECU_30	E2_OUT4	Output 4
ECU_31	E2_OUT5	Output 5
ECU_32	E2_TAB	TAB
ECU_33	E2_BARO	Barometric pressure
ECU_34	E2_LNR3L	Analogic linear input 3
ECU_35	E2_LNR4L	Analogic linear input 4
ECU_38	E2_VBATT_DIR	Direct battery supply
ECU_39	E2_VBATT_KEY	ECU voltage supply

4.1 "EFI EUROPE" "EURO_2_V061" protocol

Channels received by AiM devices connected to "EFI EUROPE" "EURO2_V061" protocol are:"

ID	CHANNEL NAME	FUNCTION
ECU_1	E2_RPM	RPM
ECU_2	E2_TPS	Throttle position sensor
ECU_3	E2_MAP	Manifold air pressure
ECU_4	E2_LNR1L	Analogic linear input 1
ECU_5	E2_DWARF	Throttle derivative
ECU_6	E2_P_OIL	Oil pressure
ECU_7	E2_AE	Fuel enrichment for positive TPS transient
ECU_8	E2_LNR2L	Analogic linear input 2
ECU_9	E2_USER1	User defined channel 1
ECU_10	E2_USER2	User defined channel 2
ECU_11	E2_USER3	User defined channel 3
ECU_12	E2_USER4	User defined channel 4

ECU_13	E2_USER5	User defined channel 5
ECU_14	E2_USER6	User defined channel 6
ECU_15	E2_USER7	User defined channel 7
ECU_16	E2_USER8	User defined channel 8
ECU_17	E2_TEROG_BASE	Injection table - injection time
ECU_18	E2_TEROG	Real injection time
ECU_19	E2_SA_BASE	Ignition table - spark advance
ECU_20	E2_SA	Real spark advance
ECU_21	E2_AFRNGK1_LOG	Lambda value 1
ECU_22	E2_KFUEL_LEARN	Fuel correction coefficient for auto mapping
ECU_23	E2_CLC1	Closed loop control 1 (injection)
ECU_24	E2_TH2O	Engine coolant temperature
ECU_25	E2_TAIR	Intake air temperature
ECU_26	E2_USER9	User defined channel 9
ECU_27	E2_USET10	User defined channel 10
ECU_28	E2_USER11	User defined channel 11
ECU_29	E2_USER12	User defined channel 12
ECU_30	E2_BARO	Barometric pressure
ECU_31	E2_LNR3L	Analogic linear input 3
ECU_32	E2_LNR4L	Analogic linear input 4
ECU_33	E2_VBATT_DIR	Direct battery supply
ECU_34	E2_VBATT_KEY	ECU voltage supply