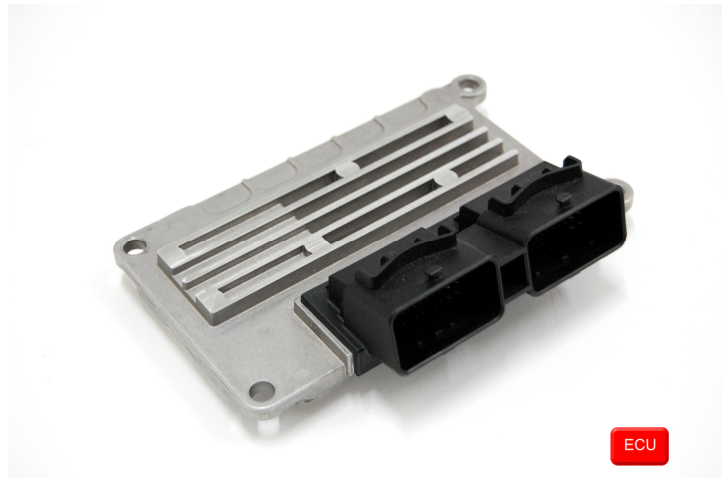


AiM Infotech

EFI EURO 4 AutoV160 Turbo
ECU

Release 1.02



1

Supported models

This tutorial explains how to connect EFI EURO 4 ECUs to AiM devices. Supported EURO 4 ECU is:

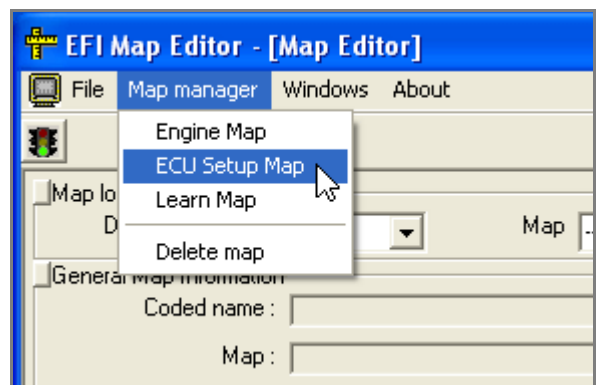
- EURO 4 Auto Firmware version 160 (for cars equipped with turbo engines)

2

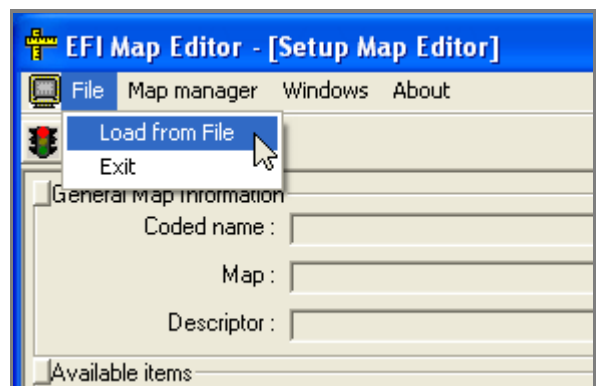
Software setup

EFI EURO 4 Auto V160 ECU comes with the dedicated "ECT_MOD" software to be used for setting the ECU.

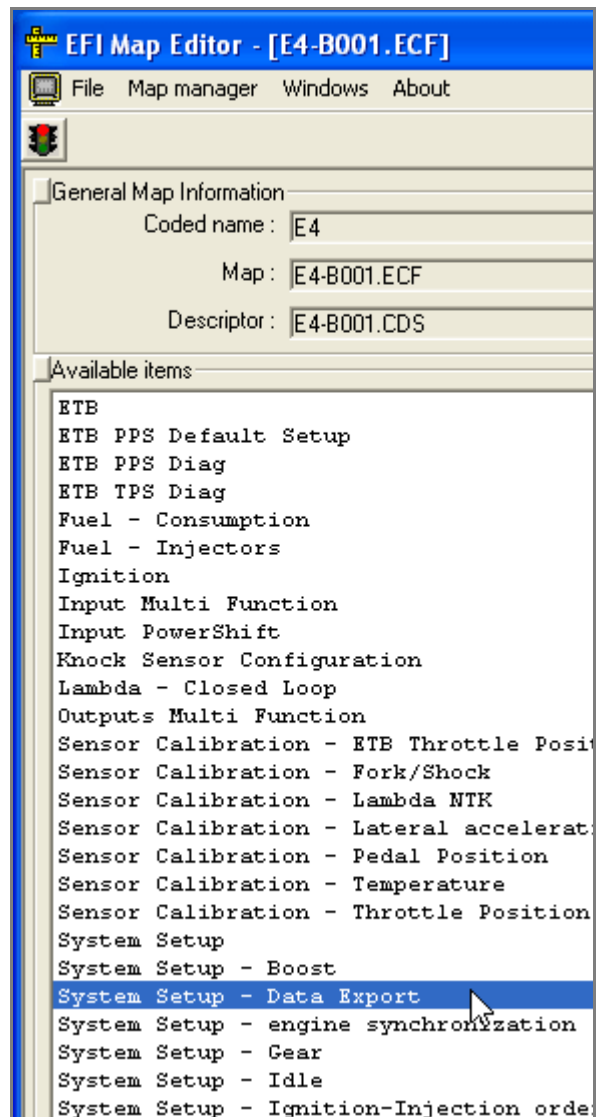
- Run the software
- Load EURO4_Auto150 ECU
- Open Map Editor
- Follow the path: "Map Manager -> ECU Setup Map"



- Follow this path: "File" -> "Load from file"



- Select ".ECF" file
- Select ".CDS" file and the map is loaded
- Click "System setup – data export"





This way "Data export" table, shown below, is loaded

The screenshot shows the EPI Map Editor interface. At the top, there's a menu bar and a toolbar. Below that, there are fields for 'Map loaded from ECU', 'Device', and 'Map'. The 'General Map Information' section includes 'Coded name: E4', 'Coded date: 07/gen/08 11:53', 'Map: E4B001.ECF', 'Notes about Map: E4B001.NTP', 'ID Descriptor: E4B001.CDS', and 'Notes about Descriptor: E4B001.CMM'. The main area is a table titled 'System Setup - Data Export'. The table has three columns: 'ID', 'Description', and 'VALUE'. The first row is highlighted with a red box. Above the table, there's a configuration bar with the text 'Configure CAN data link: 0= Disable, 1= standard, 2= User'. The '2= User' option is selected. The table contains 64 rows of data, each representing a channel (1-64) and its corresponding value.

ID	Description	VALUE
Id 300	Channel 1 (200Hz) - select data from CAN address #	135
Id 300	Channel 2 (200Hz) - select data from CAN address #	133
Id 300	Channel 3 (200Hz) - select data from CAN address #	134
Id 300	Channel 4 (200Hz) - select data from CAN address #	126
Id 301	Channel 5 (200Hz) - select data from CAN address #	122
Id 301	Channel 6 (200Hz) - select data from CAN address #	123
Id 301	Channel 7 (200Hz) - select data from CAN address #	124
Id 301	Channel 8 (200Hz) - select data from CAN address #	125
Id 302	Channel 9 (200Hz) - select data from CAN address #	129
Id 302	Channel 10 (200Hz) - select data from CAN address #	94
Id 302	Channel 11 (200Hz) - select data from CAN address #	94
Id 302	Channel 12 (200Hz) - select data from CAN address #	31
Id 303	Channel 13 (200Hz) - select data from CAN address #	591
Id 303	Channel 14 (200Hz) - select data from CAN address #	276
Id 303	Channel 15 (200Hz) - select data from CAN address #	427
Id 303	Channel 16 (200Hz) - select data from CAN address #	263
Id 304	Channel 17 (200Hz) - select data from CAN address #	425
Id 304	Channel 18 (200Hz) - select data from CAN address #	235
Id 304	Channel 19 (200Hz) - select data from CAN address #	261
Id 304	Channel 20 (200Hz) - select data from CAN address #	227
Id 305	Channel 21 (200Hz) - select data from CAN address #	206
Id 305	Channel 22 (200Hz) - select data from CAN address #	202
Id 305	Channel 23 (200Hz) - select data from CAN address #	137
Id 305	Channel 24 (200Hz) - select data from CAN address #	139
Id 306	Channel 25 (200Hz) - select data from CAN address #	157
Id 306	Channel 26 (200Hz) - select data from CAN address #	148
Id 306	Channel 27 (200Hz) - select data from CAN address #	149
Id 306	Channel 28 (200Hz) - select data from CAN address #	152
Id 307	Channel 29 (200Hz) - select data from CAN address #	158
Id 307	Channel 30 (200Hz) - select data from CAN address #	193
Id 307	Channel 31 (200Hz) - select data from CAN address #	181
Id 307	Channel 32 (200Hz) - select data from CAN address #	211
Id 308	Channel 33 (200Hz) - select data from CAN address #	160
Id 308	Channel 34 (200Hz) - select data from CAN address #	100
Id 308	Channel 35 (200Hz) - select data from CAN address #	542
Id 308	Channel 36 (200Hz) - select data from CAN address #	549
Id 308	Channel 37 (200Hz) - select data from CAN address #	543
Id 308	Channel 38 (200Hz) - select data from CAN address #	599
Id 308	Channel 39 (200Hz) - select data from CAN address #	361
Id 308	Channel 40 (200Hz) - select data from CAN address #	394
Id 308	Channel 41 (200Hz) - select data from CAN address #	395
Id 308	Channel 42 (200Hz) - select data from CAN address #	398
Id 308	Channel 43 (200Hz) - select data from CAN address #	10
Id 308	Channel 44 (200Hz) - select data from CAN address #	11
Id 308	Channel 45 (200Hz) - select data from CAN address #	12
Id 308	Channel 46 (200Hz) - select data from CAN address #	13
Id 308	Channel 47 (200Hz) - select data from CAN address #	14
Id 308	Channel 48 (200Hz) - select data from CAN address #	15
Id 308	Channel 49 (200Hz) - select data from CAN address #	40
Id 308	Channel 50 (200Hz) - select data from CAN address #	37
Id 308	Channel 51 (200Hz) - select data from CAN address #	36
Id 308	Channel 52 (200Hz) - select data from CAN address #	167
Id 308	Channel 53 (200Hz) - select data from CAN address #	168
Id 308	Channel 54 (200Hz) - select data from CAN address #	99
Id 308	Channel 55 (200Hz) - select data from CAN address #	98
Id 308	Channel 56 (200Hz) - select data from CAN address #	271
Id 30E	Channel 57 (200Hz) - select data from CAN address #	272
Id 30E	Channel 58 (200Hz) - select data from CAN address #	92
Id 30E	Channel 59 (200Hz) - select data from CAN address #	91
Id 30E	Channel 60 (200Hz) - select data from CAN address #	93
Id 30F	Channel 61 (200Hz) - select data from CAN address #	97
Id 30F	Channel 62 (200Hz) - select data from CAN address #	95
Id 30F	Channel 63 (200Hz) - select data from CAN address #	96
Id 30F	Channel 64 (200Hz) - select data from CAN address #	420

- set the first row on "2=User"



- check that "ID" and "Value" digits are as in the following table

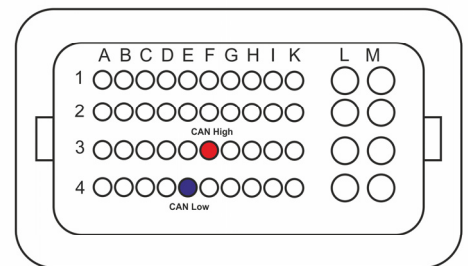
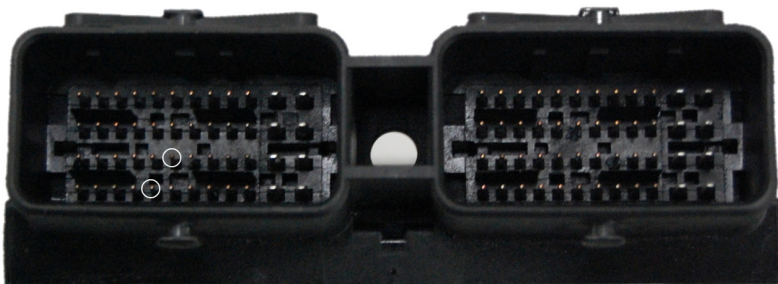
ID	VALUE	ID	VALUE	ID	VALUE
300	135	305	137	30B	12
300	133	305	139	30B	13
300	134	306	157	30B	14
300	126	306	148	30B	15
301	122	306	149	30C	40
301	123	306	152	30C	37
301	124	307	158	30C	36
301	125	307	153	30C	167
302	129	307	181	30D	168
302	94	307	211	30D	99
302	94*	308	160	30D	98
302	31	308	100	30D	271
303	591	308	542	30E	272
303	276	308	549	30E	92
303	427	309	543	30E	91
303	263	309	599	30E	93
304	425	309	361	30F	97
304	235	309	394	30F	95
304	261	30A	395	30F	96
304	227	30A	398	30F	420
305	206	30A	10		
305	202	30A	11		

* Gauge boost (1bar gauge = 2000 mbar ABS map)

3

Wiring connection

EFI Euro4 Auto V150 ECU features a bus communication protocol based on CAN on the 48 pins front left male connector. Here below it is shown with its pinout. Below is connection table.



EFI connector pin

Pin function

AiM cable

F3

CAN High

CAN+

E4

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_4_AUTO_V160_ATL_TURBO"

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Available channels

Channels received by AiM devices connected to "EFI EUROPE" "EURO_4_AUTO_V160_ATL_TURBO" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	E4_RPM	RPM
ECU_2	E4_TPS_1	Throttle Position Sensor 1
ECU_3	E4_TPS_2	Throttle Position Sensor 2
ECU_4	E4_CAR_SPEED	Vehicle speed
ECU_5	E4_FR_SPEED	Front Right wheel speed
ECU_6	E4_FL_SPEED	Front left wheel speed
ECU_7	E4_RR_SPEED	Rear right wheel speed
ECU_8	E4_RL_SPEED	Rear Left wheel speed
ECU_9	E4_GEAR	Engaged gear
ECU_10	E4_MAP	Manifold Air pressure
ECU_11	E4_BOOST	Gauge boost managed by AIM logger
ECU_12	E4_KNOCK	Knock counter
ECU_13	E4_LAMBDA_TEMP	Lambda sensor temperature
ECU_14	E4_LAMBDA1	Lambda sensor 1
ECU_15	E4_LAMBDA2	Lambda sensor 2
ECU_16	E4_CLC_1	Closed loop control 1 (injection)
ECU_17	E4_CLC_2	Closed loop control 2 (injection)
ECU_18	E4_LEARN_1	Fuel correction coefficient for auto mapping
ECU_19	E4_FUEL_C_L	Fuel open/closed
ECU_20	E4_T_INJ_BASE	TerogBase1
ECU_21	E4_T_INJ_U	Upper injectors injection time
ECU_22	E4_T_INJ_L	Lower injectors injection time
ECU_23	E4_D_TPS_1	Throttle position sensor 1 derivative
ECU_24	E4_D_MAP	Manifold Air pressure derivative



ECU_25	E4_TC_STATUS	Traction control status
ECU_26	E4_TC_SLIP	Traction control slip
ECU_27	E4_TC_SLIP_CALC	Slip calculation for traction control
ECU_28	E4_TC_SLIP_TRIM	Slip multiplier for traction control
ECU_29	E4_TC_CUT	Cut for traction control
ECU_30	E4_TC_SA_OFFSET	Osa slip
ECU_31	E4_SA_BASE	Spark advance base
ECU_32	E4_SA	Spark advance
ECU_33	E4_SHIFT_CUT	Shift cut
ECU_34	E4_SYNC	Sync
ECU_35	E4_ATL_ACTIVE	Anti turbo lag active
ECU_36	E4_TURBO_SPEED	Turbo speed
ECU_37	E4_EXHST_TEMP	Exhaust air temperature
ECU_38	E4_LAMBDA_OXY	Lambda oxygen percentage
ECU_39	E4_IDLE_DC	Idle DC OUT
ECU_40	E4_BOOST_TARG	Target Map Boost
ECU_41	E4_BOOST_ERROR	Pressure sensor
ECU_42	E4_BOOST_WG_OUT	Boost out
ECU_43	E4_ANALOG_1	Analog channel 1
ECU_44	E4_ANALOG_2	Analog channel 2
ECU_45	E4_ANALOG_3	Analog channel 3
ECU_46	E4_ANALOG_4	Analog channel 4
ECU_47	E4_ANALOG_5	Analog channel 5
ECU_48	E4_ANALOG_6	Analog channel 6
ECU_49	E4_ANALOG_7	Analog channel 7
ECU_50	E4_ANALOG_8	Analog channel 8
ECU_51	E4_VBATT	Battery supply
ECU_52	E4_P_BRAKE_R	Rear brake pressure
ECU_53	E4_P_BRAKE_F	Front brake pressure
ECU_54	E4_P_CLUTCH	Clutch pressure
ECU_55	E4_P_BARO	Barometric pressure
ECU_56	E4_FUEL_USED_LTR	Used fuel



ECU_57	E4_FUEL_REM_LTR	Remaining fuel
ECU_58	E4_T_H2O	Water temperature
ECU_59	E4_T_OIL	Oil temperature
ECU_60	E4_T_AIR	Intake air temperature
ECU_61	E4_T_SPARE	Spare Temperature
ECU_62	E4_P_OIL	Oil temperature
ECU_63	E4_P_FUEL	Fuel temperature
ECU_64	E4_SEL_MAP	Selected map