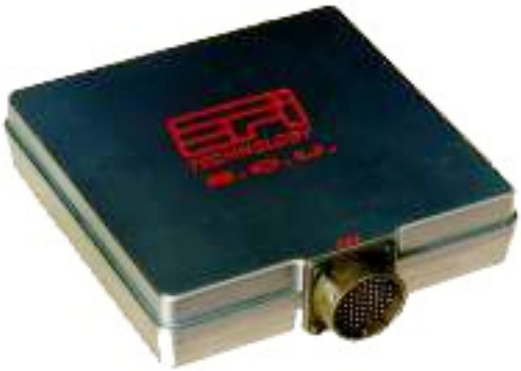
EFI Europe

Euro 96 ECU



Racing Data Power

INTRODUCTION

AIM has developed special applications for many of the most popular ECUs: by special applications we mean user-friendly systems which allow to easily connect your ECU to our high tech data loggers: user needs only to install harness between the **logger** and the ECU.

Once connected, the logger displays (and/or records, depending on the logger and on the ECU data stream and configuration) values like RPM, engine load, throttle position (TPS), air and water temperatures, battery voltage, speed, gear, lambda value (air/fuel ratio) analog channels…

All AIM loggers include – free of charge – **Race Studio 2** software, a powerful tool to configure the system and analyze recorded data on your PC.

Warning: once the ECU is connected to the logger, it is necessary to set it in the logger configuration in Race Studio 2 software.
Select Manufacturer "Efi" Model "Euro_96".
Refer to Race Studio Configuration user manual for further information concerning the loggers configuration.

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Chapter 1 – Technical communication notes

EFI Euro 96 ECU has a CAN line to export data to a data logger.

For Euro 96 ECU to communicate with AIM loggers it is necessary to set a specific dataset in “ECT Mod”, the EFI software, so that their CAN bus is managed as AIM loggers manage it.

To do so reach Data export table: available options are: 0= Disable, 1 = standard, 2= Extended. **Set option “2 =Extended.**”

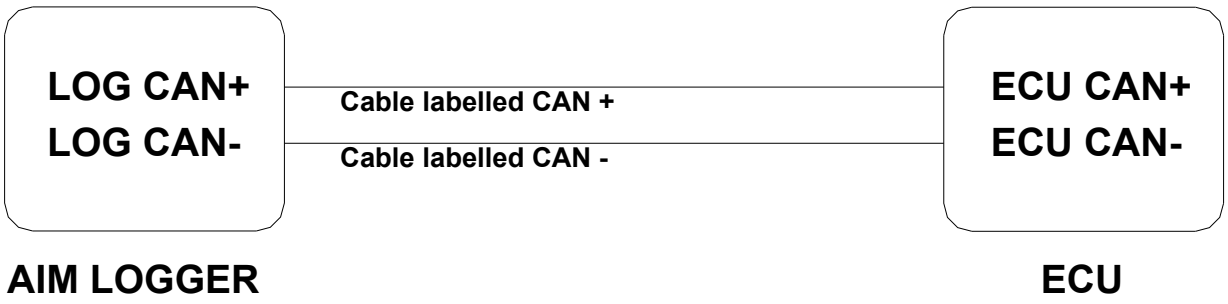
In case that despite this software setting AIM logger and the ECU do not communicate make this hardware check:

- ensure that a 120 Ohm “line-end resistor” is installed between CAN+ and CAN-; use a multimeter; disconnect AIM logger from the ECU and make this check on both sides (ECU and logger);
- check if the amplitude of each bit is 2V (or at least 1.8V); using a scope ground the probe on CAN- while measuring CAN+. Please ensure that no filtering feature is enabled on the scope: this because of high baud rate of this line.

Please ensure that the logger connected to the ECU is upgraded at the latest firmware version and has been configured with the latest Race Studio 2 version.

Chapter 2 – CAN communication Setup

EFI Euro 96 ECU is equipped with a CAN communication protocol used to communicate parameters to an external logger.
The image here below shows the standard CAN communication setup.



Chapter 3 – Connection with AIM loggers

EFI Euro 96 ECU is equipped with a 55 pins connector used to communicate parameters to an external data logger or to configure the ECU itself. To connect AIM logger to the ECU connect:

- AIM cable labelled CAN+ with pin 38 of the 55 pins connector;
- AIM cable labelled CAN- with pin 39 of the 55 pins connector.

Chapter 4 – EFI Euro 96 communication protocol

Channels received by AIM loggers connected to EFI Euro 96 ECU are:

ID	CHANNEL NAME	FUNCTION
ECU_1	EFI_RPM	RPM
ECU_2	EFI_TPS	Throttle position sensor
ECU_3	EFI_DFARF	Throttle position derivative
ECU_4	EFI_MAP	Manifold pressure
ECU_5	EFI_BARO	Barometric pressure
ECU_6	EFI_POIL	Oil pressure
ECU_7	EFI_PFUEL	Fuel pressure
ECU_8	EFI_ARR_TRANS	Fuel enrichment for any transient
ECU_9	EFI_SPEED	Vehicle Speed
ECU_10	EFI_VBATT	Battery supply
ECU_15	EFI_TEROGBASE	Erogation time on fuel tab
ECU_16	EFI_TEROG	Real erogation time
ECU_17	EFI_TEROG1	Erogation time for cylinder 1
ECU_18	EFI_TEROG2	Erogation time for cylinder 2
ECU_19	EFI_SABASE	Spark advance on ignition table
ECU_20	EFI_SA	Real spark advance
ECU_21	EFI_SA1	Spark advance for cylinder 1
ECU_22	EFI_SA2	Spark advance for cylinder 2
ECU_23	EFI_NTK1	Lambda value 1
ECU_24	EFI_FCCLAT	Auto mapping flag
ECU_25	EFI_KFUELLEARN	Fuel correction coefficient for auto mapping
ECU_26	EFI_CLC1	Closed loop control 1 (injection)
ECU_33	EFI_TH2O	Engine cooling temperature
ECU_34	EFI_TOIL	Oil temperature
ECU_35	EFI_TFUEL	Fuel temperature
ECU_36	EFI_TAIR	Intake air temperature
ECU_40	EFI_KFUELCAL	Calibration fuel multiplier
ECU_41	EFI_FUEL_USED	Injected fuel