



SYBELE Challenger 4 RS232



INTRODUCTION

AIM has developed special applications for many of the most common ECUs: by special applications we mean user-friendly systems which allow to easily connect your ECU to our hi-tech data loggers: user need 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) 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 “SYBELE” and Model “RS232”.

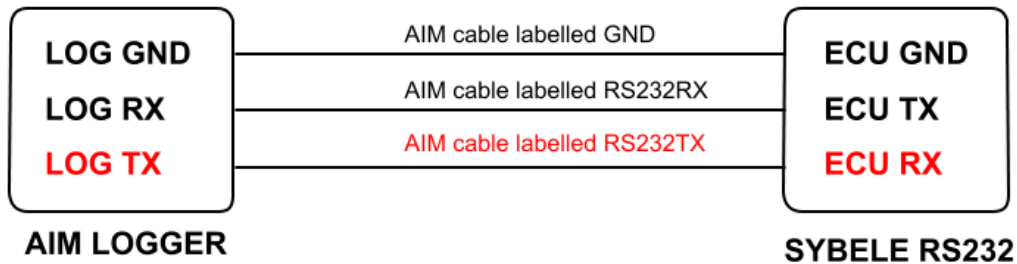
Refer to Race Studio Configuration user manual for further information concerning the loggers configuration.

Warning: it is strongly recommended to always verify whether the ECU needs specific software settings to export data.

1 –Serial communication Setup

Sybele Challenger4 RS232 ECU has a serial communication protocol and is equipped with a 35 pins male connector used to communicate with an external logger and to configure the ECU itself.

The image here below shows the standard serial communication setup used to connect the ECU with AIM loggers.



Note: Sybele Challenge RS232 needs connection of LOG TX cable to ECU RX pin too.

2 – Connection to AIM loggers

To connect Sybele Challenger4 RS232 – 35 pins male connector to – AIM loggers:

- Connect cable labelled RS232RX with ECU TX (pin 13)
- Connect cable labelled RS232TX with ECU RX (pin 31)
- Connect cable labelled GND with ECU power GND (pin 29)

Here below the connector of the ECU and its pinout is shown:



PIN	FUNCTION	COMMENTS
31	RS232RX	
13	RS232TX	
29	GND	

3 – Sybele Challenger4 ECU communication protocol

Channels received by AIM loggers connected to Sybele Challenger4 RS232 ECU are:

ID	FUNCTION	COMMENTS
ECU_1	SYBELE_RPM	RPM
ECU_2	SYBELE_TPS	Throttle Position Sensor
ECU_3	SYBELE_MAP	Manifold Air Pressure
ECU_4	SYBELE_VBATT	Voltage Battery
ECU_5	SYBELE_AFR	Air Fuel Ratio
ECU_6	SYBELE_ENGTEMP	Engine Temperature
ECU_7	SYBELE_AIRT	Air Temperature
ECU_8	SYBELE_ATMPRESS	Atmospheric Pressure
ECU_9	SYBELE_GEAR	Gear number
ECU_10	SYBELE_INJTIME	Injection Time
ECU_11	SYBELE_ADVANCE	Advance
ECU_12	SYBELE_COEXCORLAMBDA	Lambda Correction Coefficient
ECU_13	SYBELE_TURBO_PRESS	Turbo Pressure
ECU_14	SYBELE_POS_ELECT_TURBO	Electric Turbo Position
ECU_15	SYBELE_TPS_ELECT	Electric Throttle Position Sensor
ECU_16	SYBELE_RICH	Carburation setting
ECU_17	SYBELE_DEBIM	Manifold Air Flow