AIM Infotech

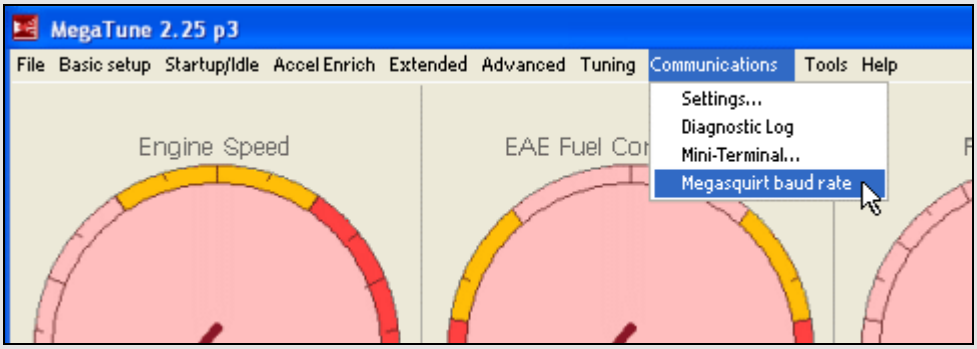
Megasquirt MS1 ECU

Release 1.02

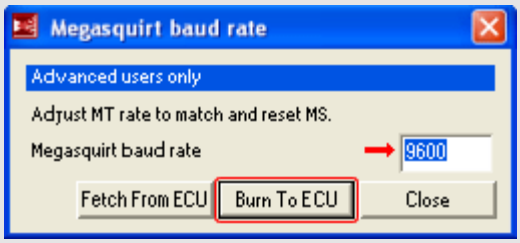
This tutorial explains how to connect Megasquirt MS1 ECU to AIM devices

1 Software setup

Megasquirt MS1 ECU comes with MegaTune software CD. After software installation, please run it and perform an ECU setting via software following this path: “Communication –> Megasquirt Baud Rate” as shown here below.

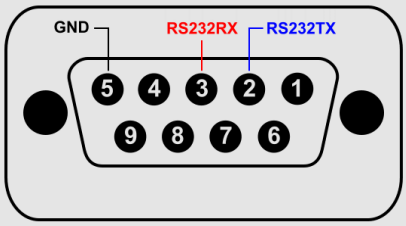


“Megasquirt baud rate” panel appears: set “baud rate –> 9600” and press “Burn to ECU” as shown here below.



2
Serial communication setup

Megasquirt MS1 communicates using the serial protocol and is equipped with a DB9 female connector used to communicate with external devices. Here below are shown DB9 female connector pinout as well as connection table.



DB9 Female connector - front view

DB9 Connector pin	Pin function	AIM cable label
2	RS232RX	RS232TX
3	RS232TX	RS232RX
5	GND	GND

3
AIM Logger configuration

Once the ECU connected to the logger, this last one is to be configured as connected to the ECU.

Run Race Studio 2 software and follow this path:

- Device Configuration –> Select the device you are using;
- select the configuration or press “New” to create a new one;
- select ECU manufacturer “Megasquirt” and ECU Model “MS1”;
- transmit the configuration to the device pressing “Transmit”.

4
Available channels

Channels received by AIM devices connected to Megasquirt MS1 are:

ID	CHANNEL NAME	FUNCTION
ECU_1	MS1_RPM	RPM
ECU_2	MS1_SQUIRT	Control channel
ECU_3	MS1_ENGINE	Control channel
ECU_4	MS1_BARO_ADC	Barometric analog digital converter
ECU_5	MS1_MAP_ADC	Manifold air pressure A
ECU_6	MS1_MAT	Manifold air temperature
ECU_7	MS1_ECT	Engine coolant temperature
ECU_8	MS1_TPS	Throttle position sensor
ECU_9	MS1_BATT_VOLT	Battery voltage
ECU_10	MS1_EGO_VOLT	Exhaust Gas oxygen voltage
ECU_11	MS1_EGO_CORR1	Exhaust Gas oxygen
ECU_12	MS1_AIR_CORR	Air correction
ECU_13	MS1_WARMUP_ENR	Warm up
ECU_14	MS1_PULSEWIDTH1	Pulse width modulation 1
ECU_15	MS1_ACC_ENRICH	Acceleration enrichment
ECU_16	MS1_BARO_CORR	Barometric
ECU_17	MS1_GAMMA_ENRICH	Total gamma enrichment
ECU_18	MS1_CURR_VE1	Current Volumetric Efficiency 1
ECU_19	MS1_PULSEWIDTH2	Pulse width modulation 2
ECU_20	MS1_CURR_VE2	Current Volumetric Efficiency
ECU_21	MS1_IDLE_DC	Idle Duty Cycle
ECU_22	MS1_ADVANCE	Advance
ECU_23	MS1_AFR_TARGET	Air fuel ratio
ECU_24	MS1_FUEL_PRESS	Fuel pressure
ECU_25	MS1_EGT	Exhaust Gas Temperature
ECU_26	MS1_IAT_CLT_ANG	Intake air temperature sensor
ECU_27	MS1_KNOCK	Knock sensor
ECU_28	MS1_EGO_CORR2	Exhausted gas oxygen

ECU_29	MS1_PORT_A	Port A
ECU_30	MS1_PORT_B	Port B
ECU_31	MS1_PORT_C	Port C
ECU_32	MS1_PORT_D	Port D
ECU_33	MS1_ECU_STACK	CPU Stack
ECU_34	MS1_TPS_LAST	Throttle position sensor Last
ECU_35	MS1_BCDC	Before top dead centre