



AiM Infotech

MBE 9A8, 998 ECU

Release 1.01



ECU



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Supported models

This tutorial explains how to connect MBE ECUs ECUs to AiM devices. Supported models are:

- MBE 9A8
- MBE 998*

***Please note:** this ECU driver has been developed by AiM for these MBE998 users that wants to manage traction control and gearbox channels.

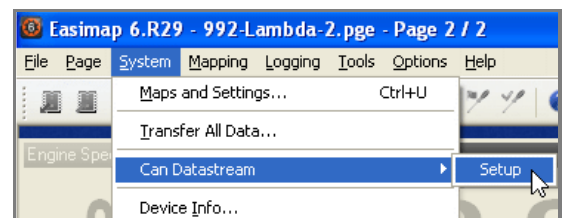
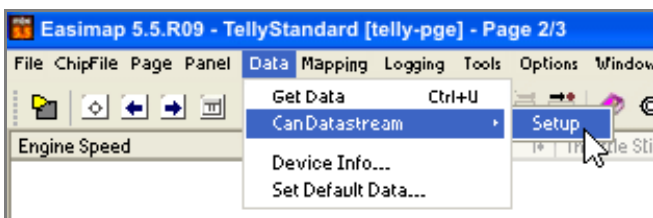
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Software setup

MBE 9A8 and MBE 998 come with EasyMap software. For a correct communication with AiM devices set them up as follows:

- Connect the ECU to your PC and power it.
- Run Easy Map and follow this path:
 - Data →CAN Datastream → Setup if you have EasyMap 5.5 release
 - System → Can Datastream → Setup if you have EasyMap 6 release

Here below you see images of EasyMap 5.5 – on the left – and EasyMap 6 – on the right.



- This way the software reads information coming from the ECU and opens a new window to configure the CAN communication;



- Parameters must be configured in the right sequence and with the right scaling; complete the table with the information suggested here below:

Message	Identifier	Data 1	Data 2	Data 3	Data 4	Data 5	Data 6	Data 7
1	1	Coolant Temperature	Engine Speed (MSB)	Engine Speed (LSB)	Throttle Voltage	Throttle Site	Supply Voltage	Air Temperature
2	2	Gear	Gear Voltage	Oil Pressure	Oil Temp	MAP 1 (Site)	Baro Pressure mbar(MSB)	Baro Pressure mbar(LSB)
3	3	Ignition Advance (Bank A)	Ignition Advance (Bank B)	Injection Time (Bank A)	Injection Time (Bank B)	Injection Time (Upper A)	Injection Time (Upper E)	Inj Lower/Upper Split
4	4	Lambda	MAP 1	Inj Duty Cycle (A)	Inj Duty Cycle (B)	Target Lambda	Target Boost	Launch Timer
5	5	Launch Voltage	Limiter (MSB)	Limiter (LSB)	WheelSpeed (MSB)	WheelSpeed (LSB)	Shift Light 1 (Mask 08)	Shift Light 2 (Mask 2)
6	6	Rad Fan 1(Mask 01)	Rad Fan 2 (Mask 02)	Water Pump Duty Cycle	Fuel Trim Inj A (MSB)	Fuel Trim Inj A (LSB)	Fuel Trim Inj B (MSB)	Fuel Trim Inj E (LSB)
7	7	Fuel Trim Inj C (MSB)	Fuel Trim Inj C (LSB)	Fuel Trim Inj D (MSB)	Fuel Trim Inj D (LSB)	Fuel Trim Inj E (MSB)	Fuel Trim Inj E (LSB)	Undefined
8	8	Fuel Trim Inj F (MSB)	Fuel Trim Inj F (LSB)	Fuel Trim Inj G (MSB)	Fuel Trim Inj G (LSB)	Fuel Trim Inj H (MSB)	Fuel Trim Inj H (LSB)	Undefined

- For a good management of MBE 998 Traction control the related scheme is needed too:

Message	Identifier	Data 1	Data 2	Data 3	Data 4	Data 5	Data 6	Data 7
1	1	Wheel Speed Front Left (LSB)	Wheel Speed Front Left (MSB)	Wheel Speed Front Right (LSB)	Wheel Speed Front Right (MSB)	Wheel Speed Rear Left (LSB)	Wheel Speed Rear Left (MSB)	Target Gear Position
2	2	Wheel Speed Rear Right (LSB)	Wheel Speed Rear Right (MSB)	Conditioned Slip (MSB)	Conditioned Slip (LSB)	Ground Speed (MSB)	Ground Speed (LSB)	Undefined
3	3	Front Axle Speed (LSB)	Front Axle Speed (MSB)	Fuel Pressure (LSB)	Fuel Pressure (MSB)	Oil Temperature (LSB)	Oil Temperature (MSB)	Undefined
4	4	Oil Pressure (LSB)	Oil Pressure (MSB)	Gear Pressure Input (pin 15) (LSB)	Gear Pressure Input (pin 15) (MSB)	Gear Switch Input (pin 16) (LSB)	Gear Switch Input (pin 16) (MSB)	Undefined
5	5	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined
6	6	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined
7	7	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined
8	8	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined

Please note: data logging configuration with EasiMap software is intended for expert users only. The software can of course be changed by MBE. Refer to www.mbesystems.com for further information.

- once all parameters configured press "Send" and choose "ECU Device" when requested; the configuration is stored in ECU memory
- close configuration window and quit the program
- before connecting MBE ECU to AiM device enable "Broadcast Mode" ensuring a nominally zero voltage (or open circuit) on fuel trim and ignition trim inputs.

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Wiring connection

MBE 9A8 and MBE 998 ECU feature a bus communication protocol based on CAN on J2 36 pins front connector. Here below are their connection table.

MBE 9A8 ECU wiring connection

J2 36 Pins connector pin	Pin function	AiM cable
9	CAN High	CAN+
8	CAN Low	CAN-

MBE 998 ECU wiring connection

J2 36 Pins connector pin	Pin function	AiM cable
6	CAN High	CAN+
7	CAN Low	CAN-

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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 "MBE"
- ECU Model "9A8998CAN"

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Available channels

Channels received by AiM devices connected to "MBE" "9A8998CAN" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	MBE_WATER_TEMP	Engine coolant temperature
ECU_2	MBE_RPM	RPM
ECU_3	MBE_THROT_VOLT	Throttle voltage
ECU_4	MBE_THROT_SIDE	Throttle position raw value
ECU_5	MBE_BATTERY	Battery supply
ECU_6	MBE_AIR_TEMP	Intake air temperature
ECU_8	MBE_GEAR	Engaged gear
ECU_9	MBE_GEAR_VOLT	Gearbox voltage
ECU_10	MBE_OIL_PRESS	Oil pressure
ECU_11	MBE_OIL_TEMP	Oil temperature
ECU_12	MBE_MAP_SIDE	Map position
ECU_13	MBE_BARO_PRESS	Barometric pressure
ECU_14	MBE_IGN_ADV_A	Ignition advance bank A
ECU_15	MBE_IGN_ADV_B	Ignition advance bank B
ECU_16	MBE_INJ_A	Injection advance bank A
ECU_17	MBE_INJ_B	Injection advance bank B
ECU_18	MBE_INJ_UP_A	Injection time upper bank A
ECU_19	MBE_INJ_UP_B	Injection time upper bank B
ECU_20	MBE_INJ_SPLIT	Injection time lower/upper split
ECU_21	MBE_LAMBDA	Lambda value
ECU_22	MBE_MAP	Manifold air pressure
ECU_23	MBE_DUTY_CY_A	Injection Duty Cycle Bank A
ECU_24	MBE_DUTY_CY_B	Injection Duty Cycle Bank B
ECU_25	MBE_TAR_LAMBDA	Target Lambda Air/Fuel ratio
ECU_26	MBE_TAR_BOOST	Target boost



ECU_27	MBE_LAUNCH_TIM	Launch timer
ECU_28	MBE_LAUNCH_VOLT	Launch voltage
ECU_29	MBE_LIMITER	Speed limiter
ECU_30	MBE_WHEELSPEED	Wheel speed
ECU_31	MBE_SHIFT_L1	Shift light 1
ECU_32	MBE_SHIFT_L2	Shift light 2
ECU_33	MBE_RAD_FAN1	Rad fan 1
ECU_34	MBE_RAD_FAN2	Rad fan 2
ECU_35	MBE_WAT_PUMP_DC	Water pump duty cycle
ECU_36	MBE_TRIM_INJA	Fuel trim injection A
ECU_37	MBE_TRIM_INJB	Fuel trim injection B
ECU_38	MBE_TRIM_INJC	Fuel trim injection C
ECU_39	MBE_TRIM_INJD	Fuel trim injection D
ECU_40	MBE_TRIM_INJE	Fuel trim injection E
ECU_41	MBE_TRIM_INJF	Fuel trim injection F
ECU_42	MBE_TRIM_INJG	Fuel trim injection G
ECU_43	MBE_TRIM_INJH	Fuel trim injection H
ECU_44	MBE_FRONT_LEFT	Front left wheel speed
ECU_45	MBE_FRONT_RIGHT	Front right wheel speed
ECU_46	MBE_REAR_LEFT	Rear left wheel speed
ECU_47	MBE_REAR_RIGHT	Rear right wheel speed
ECU_48	MBE_SLIP	Slip percentage
ECU_49	MBE_GROUND_SPD	Ground speed
ECU_50	MBE_FRONT_AXLE	Front axle speed
ECU_51	MBE_FUEL_PRESS	Fuel pressure
ECU_52	MBE_OIL_TEMP	Oil temperature
ECU_53	MBE_OIL_PRESS	Oil pressure
ECU_54	MBE_GEAR_PRESS	Gearbox pressure
ECU_55	MBE_GEAR_SWITCH	Gear switch
ECU_56	MBE_TARG_GEAR	Gear target