AiM Infotech

Marelli MF4
Customer Protocol

Release 1.03

ECU

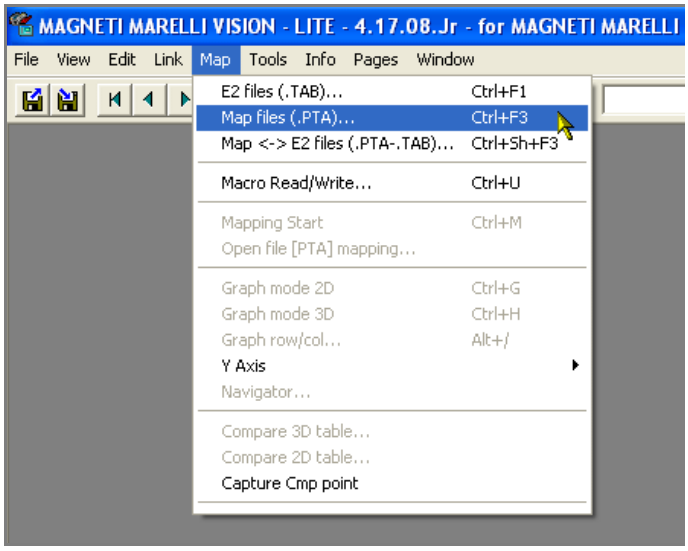
1 Introduction

This tutorial explains how to connect Marelli MF4 ECU to AiM devices using a Customer Protocol. For a proper communication between AiM device and Marelli ECU a software setting is needed.

2 Software setting

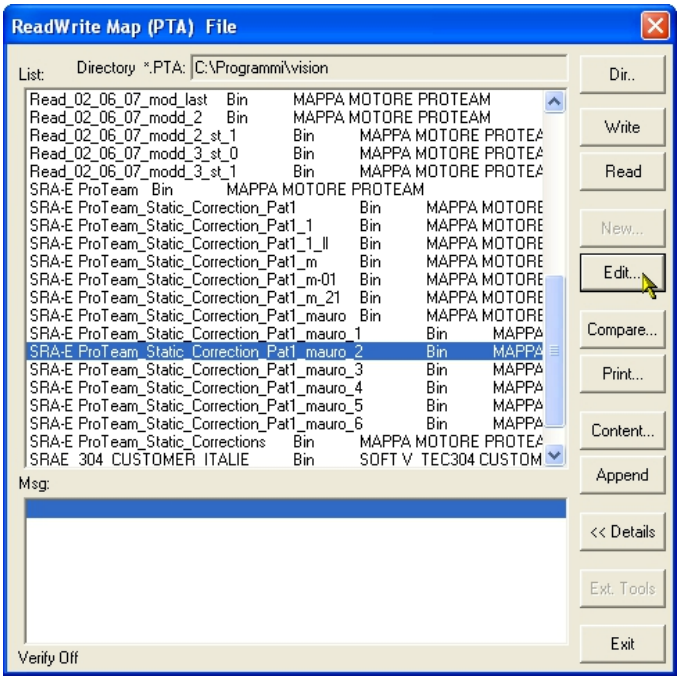
To properly set Marelli MF4 ECU run Marelli "Vision" software and follow carefully these instructions.

- Click: "Map –> Map files (.PTA)



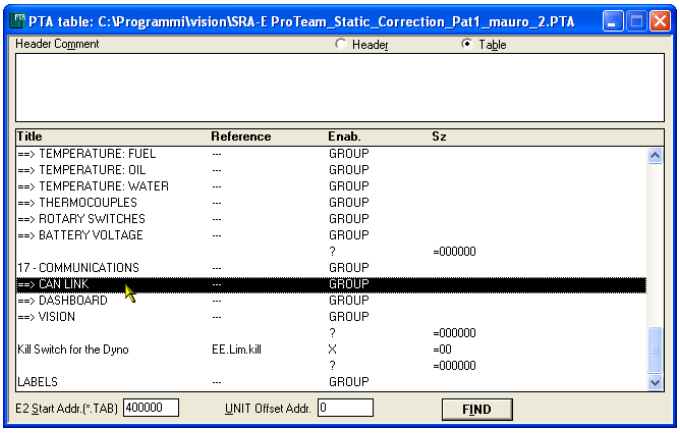
"ReadWrite Map (PTA) File" window appears:

- Click: "Edit"



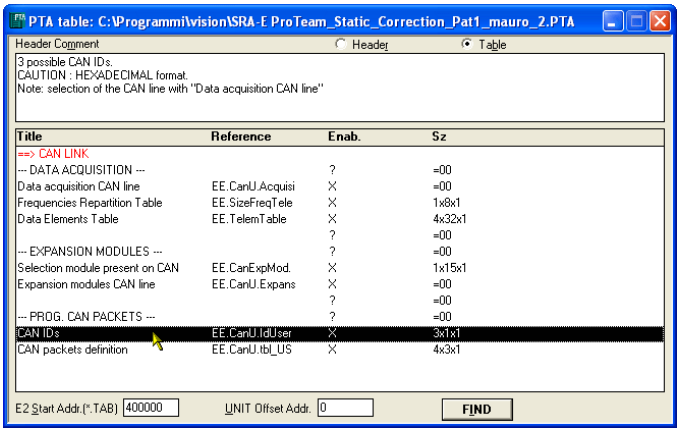
"PTA table" window appears:

- scroll it and double click on "CAN LINK"

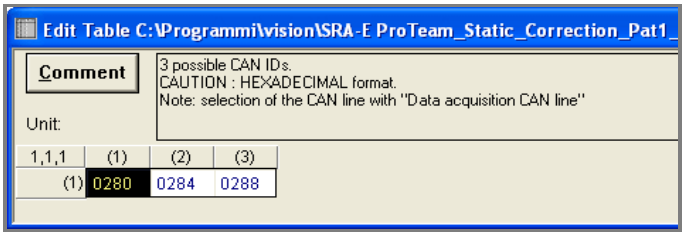


"PTA table" sub-window appears:

- double click "CAN IDs"

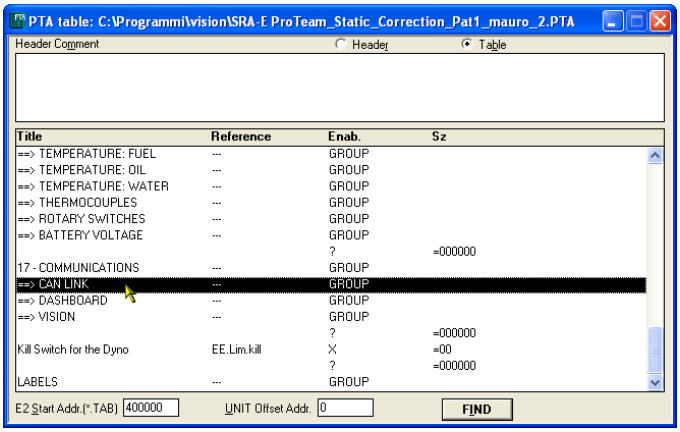


"Edit table" sub-window appears:



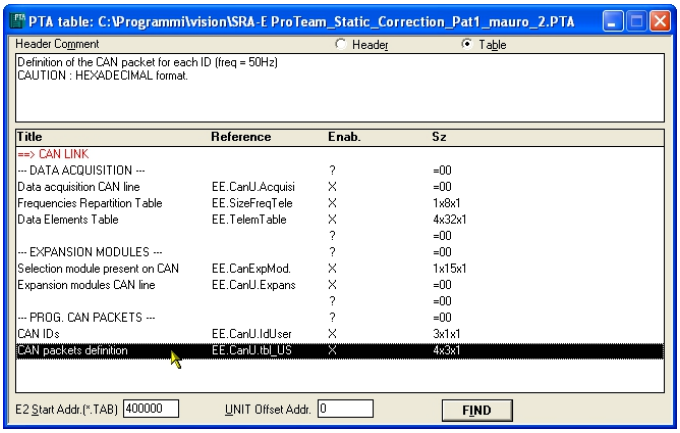
- fill in the following values:
  - column (1): 280
  - column (2): 284
  - column (3): 288
- close the window

The system comes back to "PTA table" window:



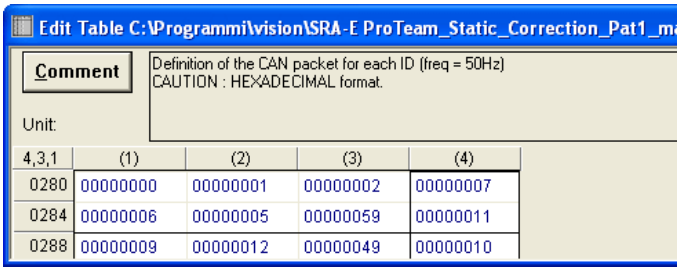
- scroll it and double click on "CAN LINK"

"PTA table" sub-window appears:



- double click on "CAN packets definition"

"Edit table" window appears again:



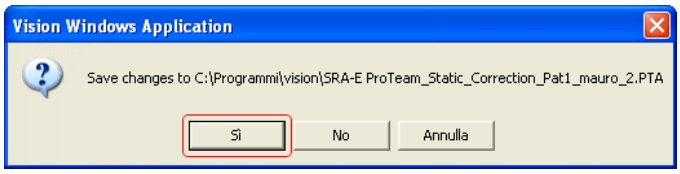
- fill in the following values:
  - row 0280: 0,1,2,7
  - row 0284: 6, 5,59 11
  - row 0288: 9, 12, 49, 10
- close the window

"PTA table" window appears:

- close it using the top right cross

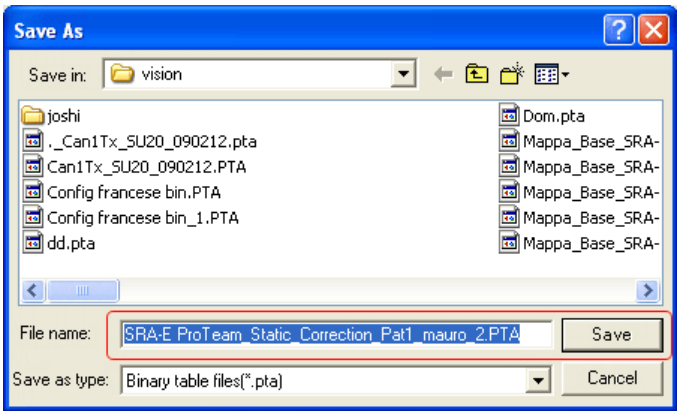
"Vision Windows Application" window appears asking to save changes:

- click "Yes"



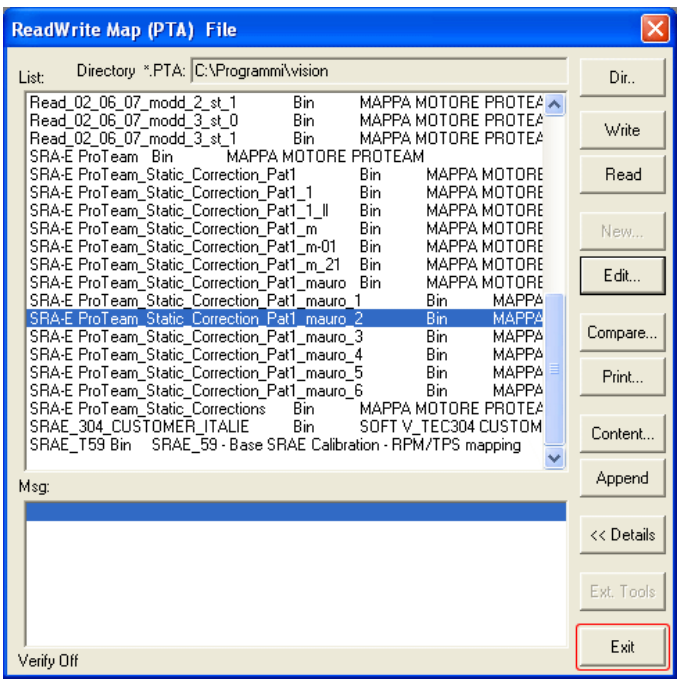
"Save as" window appears:

- select destination folder;
- fill in file name
- press "Save"



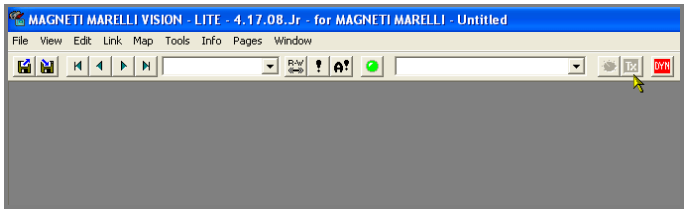
"ReadWrite Map (PTA) File" window appears:

- click "Exit"



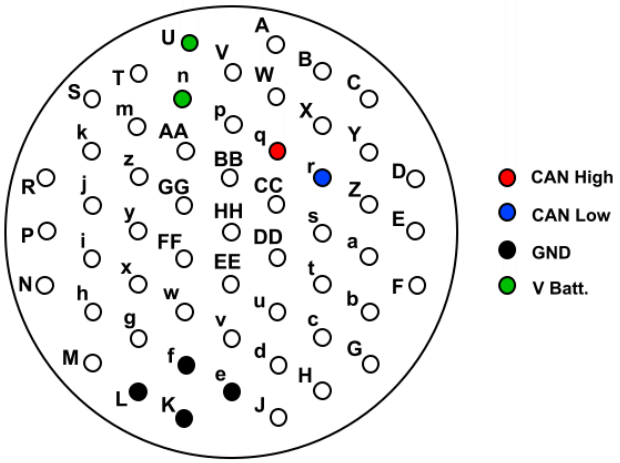
The software comes back the main page:

- click "Tx" icon on the top toolbar and transmit the configuration to the ECU



3
Connection to AiM devices

Marelli MF4 ECU features a bus communication protocol based on CAN on the 55 pins front male connector. Here below you see connector pinout on top and connection table on bottom.



55 pins Deutsch connector pin	Pin function	AiM cable
q	CAN High	CAN+
r	CAN Low	CAN-
K, L, e, f	GND	GND
U, n	V Battery	9-15 VDC

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 “MARELLI”
- ECU Model "CustomerProtocol"

5 Available channels

Channels received by AiM devices connected to "MARELLI" "CustomerProtocol" protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	MAR_RPM	RPM
ECU_2	MAR_THROTTLE	Throttle position sensor
ECU_3	MAR_MANIFOLD_PRESSURE	Manifold air pressure
ECU_4	MAR_AIR_T	Intake air temperature
ECU_5	MAR_WATER_T	Engine coolant temperature
ECU_6	MAR_OIL_P	Oil pressure
ECU_7	MAR_GEAR	Engaged gear
ECU_8	MAR_BATTERY	Battery supply
ECU_9	MAR_CONSUMPTION	Fuel consumption
ECU_10	MAR_KLAMBDA	Lambda value
ECU_11	MAR_DIAG	Diagnostic
ECU_12	MAR_GEAR_POS	Gear position