Section 1

ATAVRAUTOEK1 Getting Started

1.1 Unpacking the system

Kit contents:

- 1 ATAVRAUTO100 V1.0 board
- 1 ATAVRAUTO102 V1.0 board
- 1 ATAVRAUTO200 V1.0 board
- 1 ATAVRAUTO300 V1.0 board
- 1 ATAVRAUTO900 V1.0 board
- 5 Cables for board connection
- 1 USB Mini-B to A cable
- 1 Getting Started
- 1 Automotive CD-Rom
- 1 AVR CD-Rom software and technical library
- 1 Dear customer letter

Note: All boards are shipped with a demo firmware loaded. This guide gives you all keys to plug and play the ATAVRAUTO evaluation kit demo.

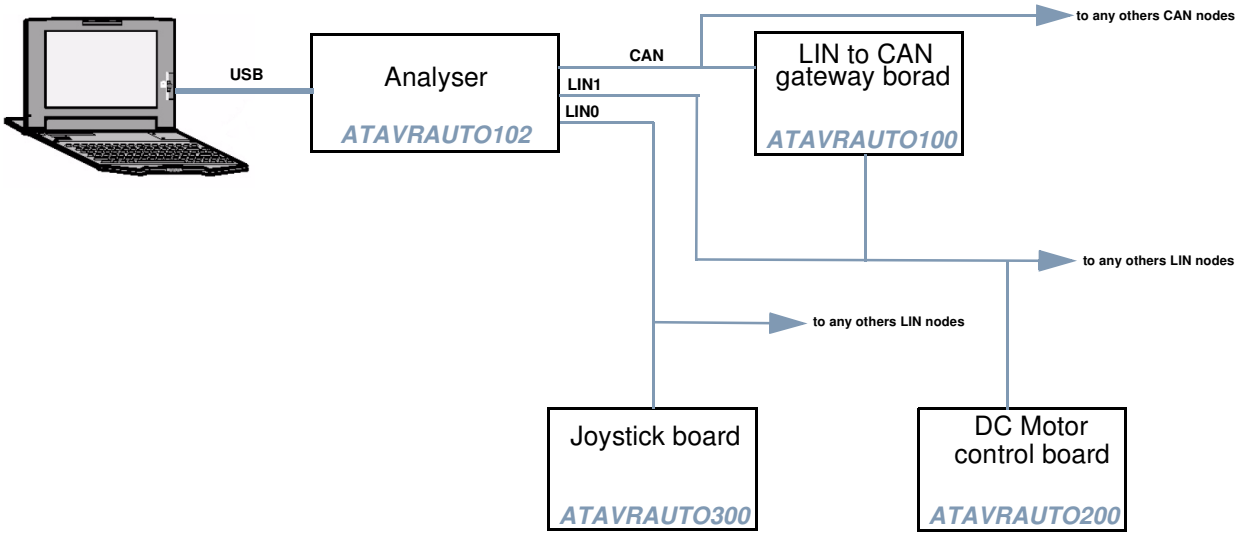
1.2 Overview

The ATAVRAUTOEK1 evaluation kit has been designed to give designers an easy and fast way to develop automotive applications. The evaluation kit is shipped with a board used as a vehicle network analyser (ATAVRAUTO102), a gateway between one LIN network to one CAN network (ATAVRAUTO100), a DC motor control board (ATAVRAUTO200) and a joystick board (ATAVRAUTO300).

The ATAVRAUTOEK1 evaluation kit is shipped with all boards connected together on the PCB (as describe in the following schematic):

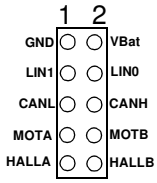
- The ATAVRAUTO300 board is connected to the ATAVRAUTO102 board via the LIN0.
- The ATAVRAUTO100 board is connected to the ATAVRAUTO200 and to the ATAVRAUTO102 boards via the LIN1.
- Boards ATAVRAUTO100 and ATAVRAUTO102 are connected together via the CAN.

Figure 1-1. Evaluation kit



An 10-pins connector is available on the PCB to access internal signals. The pinout is as following:

Figure 1-2. 10-pins connector pinout

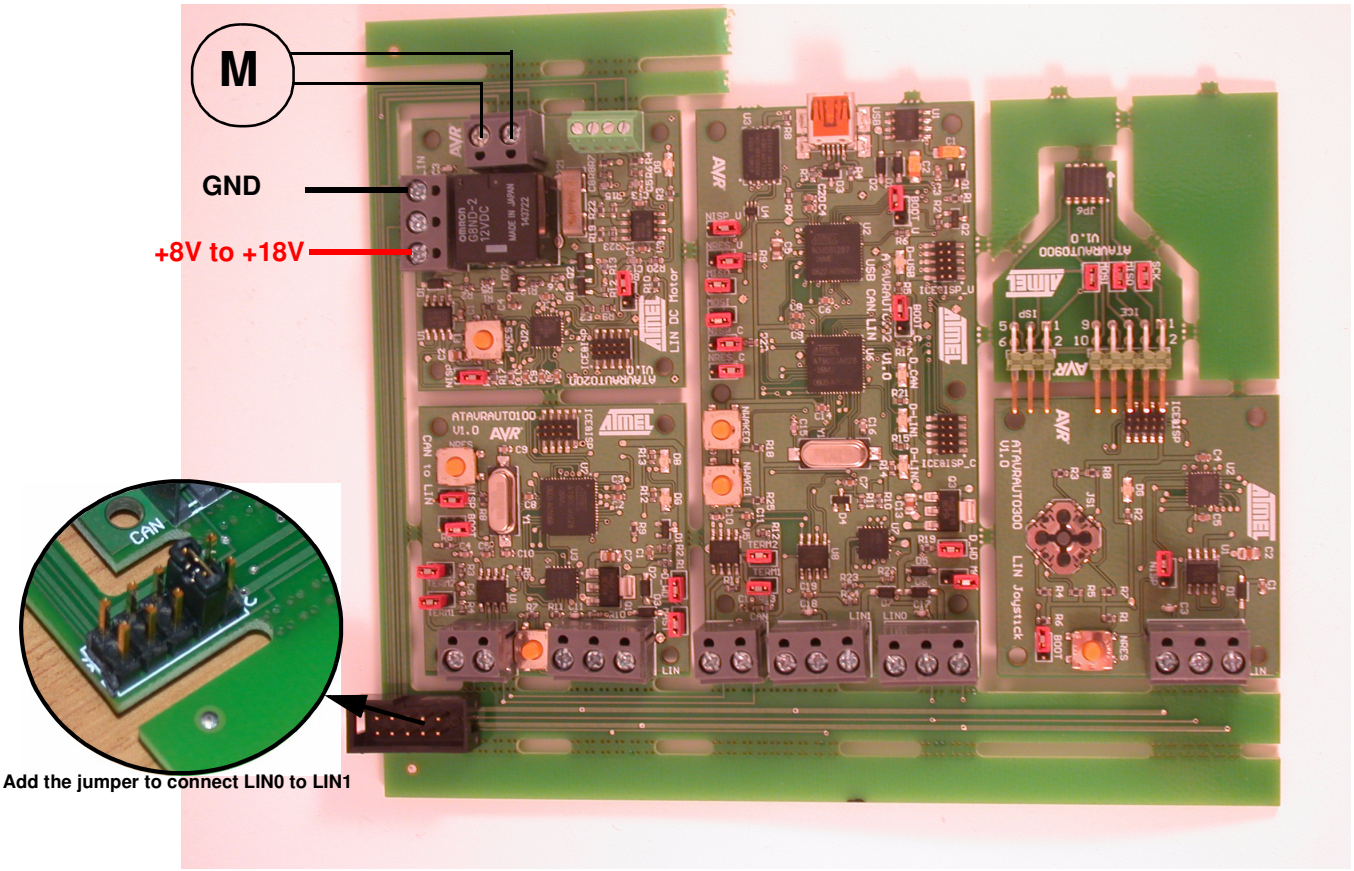


1.3 Quick Start

The ATAVRAUTOEK1 evalution kit contains 3 application boards (ATAVRAUTO100 /200 /300) and one board used as a tool(ATAVRAUTO102). All boards are shipped with a demo firmware loaded. To run the demo all boards have to be connected to one LIN. Please follow one of the two solutions described below.

1.3.1 With all boards connected to the PCB

This is the easiest way to start with the ATAVRAUTO evaluation kit. Plug the motor in the ATAVRAUTO200 connector or in the 10-pins connector on the PCB, add a DC voltage source (8 to 18V) to VBat. The ATAVRAUTO evaluation kit is shipped with the jumper connected to the pin3 and pin4 (LIN0 and LIN1 are connected together).

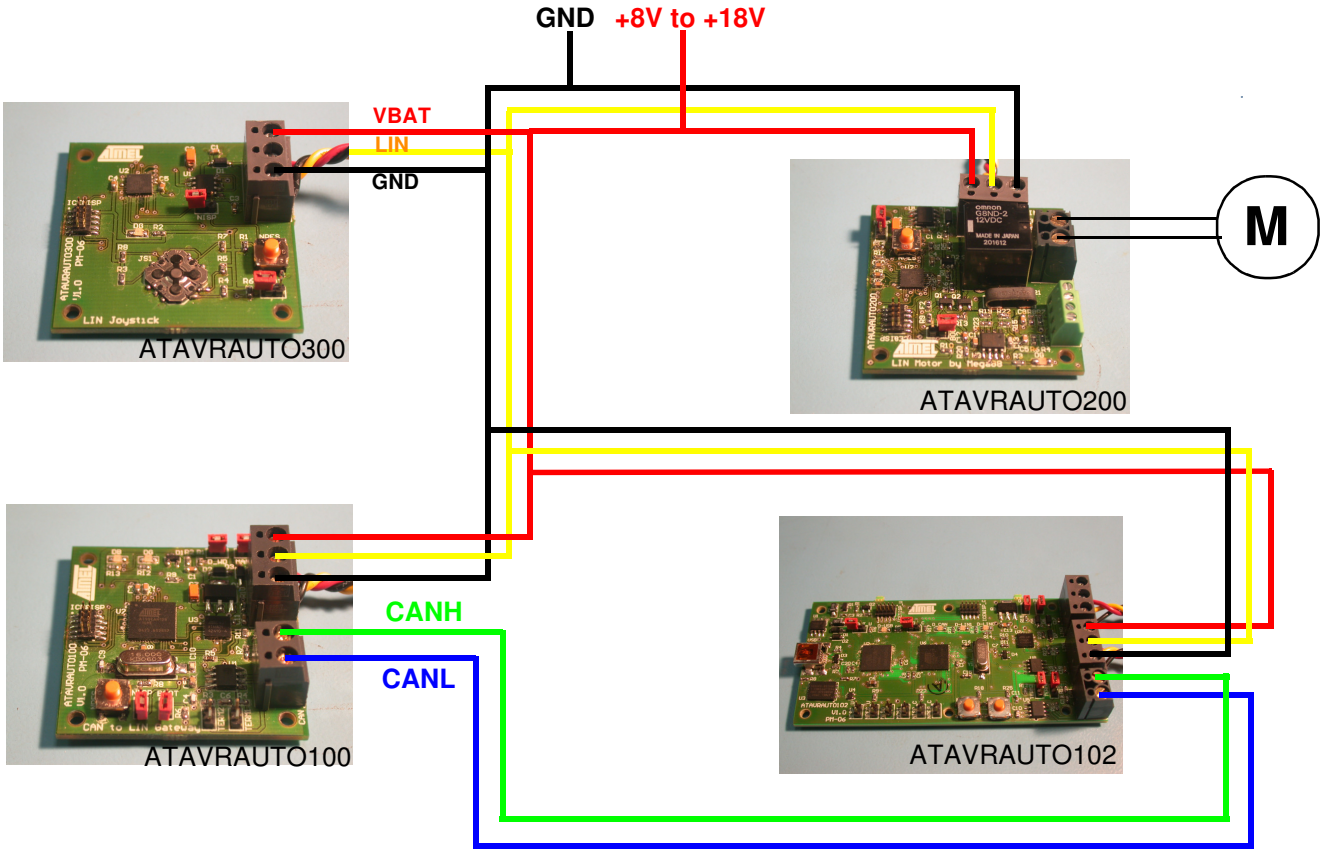


Finally plug the evaluation kit to your PC via the USB cable to analyse LIN and CAN networks with X-Analyser.

1.3.2 With standalone boards

Connect your board as indicated below using the cables included in the kit and connect a DC voltage source (8 to 18V) to VBat.

Figure 1-3. ATAVRAUTOx Boards connection



You are now ready to run the demo:

- Press the left or right button of the joystick to operate the DC Motor forward or backward.
- Use X-Analyser with the ATAVRAUTO102 to send CAN frame to gateway board to get the motor current and the motor power supply values.

Table 1-1. Standard CAN frames to send to the gateway

Name	Type	Identificateur	Length
Get_Current	Remote	0x05	0
Get_Power_Supply	Remote	0x06	0

- Use X-Analyser with the ATAVRAUTO102 to analyse the LIN bus.

Table 1-2. LIN frames available on the LIN network

Name	Identifier	Function
NET_CTRL	0x01	Get motor information from the joystick
DC_INFO	0x22	Return DC motor power supply value and current value to the gateway

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