

**Instituto Tecnológico de Estudios Superiores de Monterrey**

**Laboratorio Sistemas Embebidos**

**Práctica 8 -CANbus Interface with CANoe and John Deere Demo Box**

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Gpo 2

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**Objective**

Practice, see and verify how the CAN communication works, using John Deere tools.

**Activity**

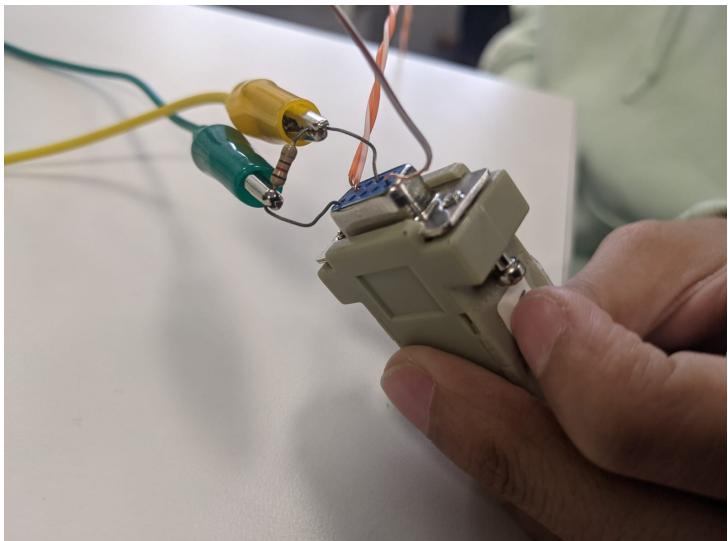
**Equipment**

- 1 VN1610 Interface from VECTOR
- 1 CAN-serial cable
- 1 JD Demonstration Box
- 1 Protoboard
- Wiring cables (male to female pin header cables).

**Software**

- CANoe 10.0 SP3
- SAE J1939 Documentation
- SAE J1939 Slides
- JD Demo Box

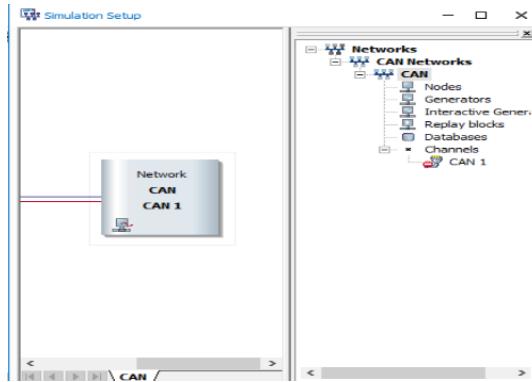
**Hardware Connection**



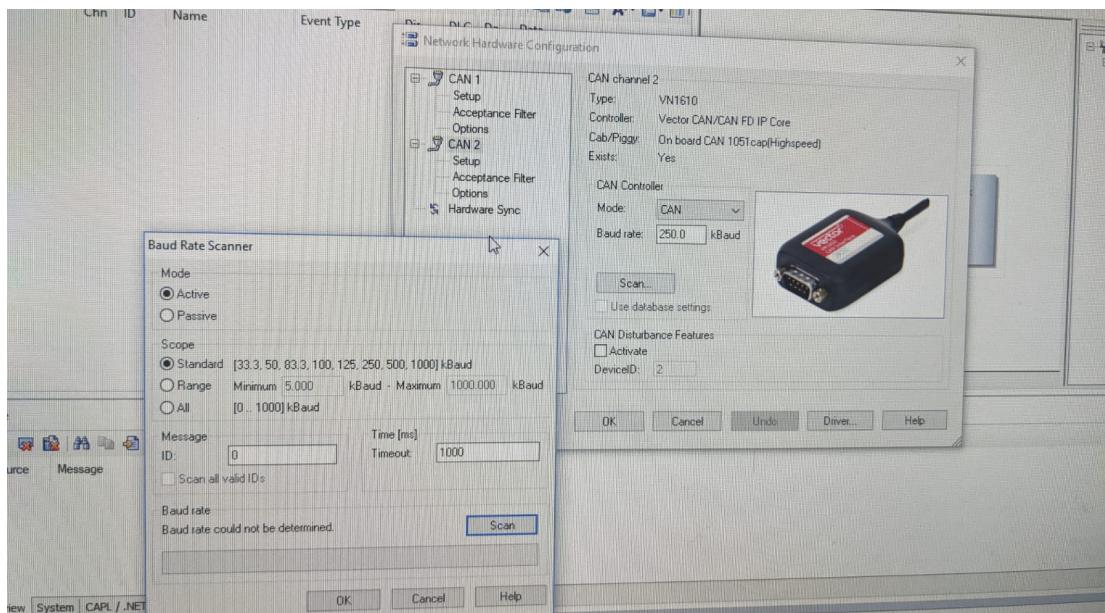
As we can see, we connect the hardware with the JD Demo Box.

Now in the software we must do the following:

1. Open software CANoe 10.0 SP3.
2. Click on File->New and select ‘General->Default’ Template.
3. Click on Simulation->Simulation Setup.
4. Expand: CAN Networks / CAN / Channels.
5. Connect to the PC the VN1610 CAN Interface from VECTOR.
6. Double click on the Network block from the left window.

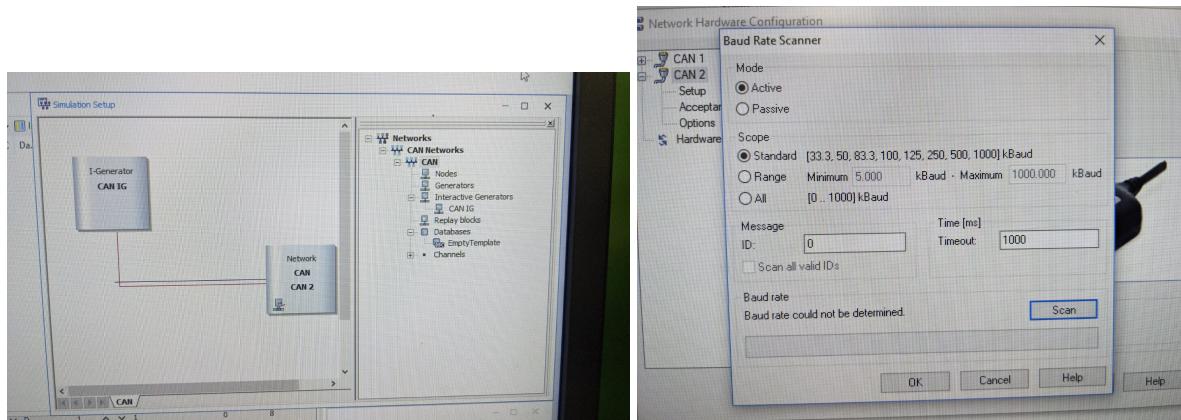


7. In the Network Hardware Configuration window, select CAN 2 from the left panel. Then click on Scan... in the right panel.
8. In the Baud Rate Scanner window, select Active for Mode and then click on Scan. A standard 250.000 kBaud should be detected. Then, click OK and OK again.



At this point of the practice with the help of the professor, we are not able to connect the computer with the John Deere Box. We suspect something happened with the JD connections, because we check continuity between the cables we use to connect the computer and the box.

Also we tried to use the program that our classmates use in their experiments, but still not working.



In both cases “Baud rate could not be determined”.

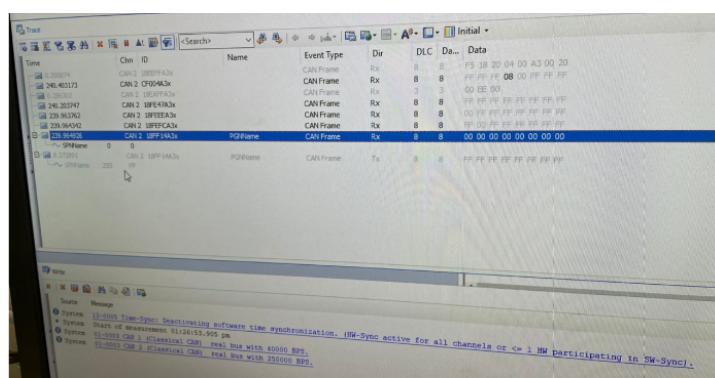
So, the instruction of the professor was to explain the situation in the report, but we checked with our classmates and they helped us to obtain evidence and answers.

In this case we have a picture of the inside of the JD box.



This is very helpful to check if the connections are well done.

Now following the instructions from the manual we create a message to send it and receive.



CAN's package received and sended.

## **Conclusion**

The Can protocol is very useful to send information packages and simplify the use of connections, in this case the area where can be implemented is the automotive area, but there are a lot of other areas to be implemented. Unfortunately we have issues with the connections and we were not able to use the equipment at the laboratory, but with the help of our classmates we were able to see how the CAN protocol works.