

Intrepid Control Systems, Inc.

IEVB Setup Guide

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1. Introduction:

The In-Vehicle networks follow different protocols like CAN, LIN, K-LINE, etc. IEVB is an Evaluation Board which gives a platform to study the protocol.

This setup guide explains the working of the IEVB and has simple activities to get started with the CAN Protocol.

2. IEVB Setup Guide

2.1 Software:

VehicleSpy3

2.2 Hardware:

IEVB, neoVI FIRE/RED

2.3 Activities:

2.3.1 Activity A: Connect your hardware to your laptop

- Connect a USB cable between your neoVI and your laptop.
- Connect the mini USB power adapter to the IEVB board's mini USB port.
- Connect the round power adapter plug to AC and the IEVB's neoVI Power Port (on corner nearest the 25-pin connector.)
- Connect the neoVI to the 25 pin connector on the IEVB.
- If you've connected everything successfully, you should see:
 - neoVI:
 - For Red/Fire: Red/Green lights flashing next to USB connector
 - IEVB: Red LEDs flashing near edge

2.3.2 Activity B: Load the VS3 file into your IEVB Board

2.3.2.1 Load VS3 into Vehicle Spy

- Open Vehicle Spy by clicking the Vehicle Spy 3 icon on your desktop.
- Click on the Add License Key button and add the .lic file in the C:\Program Files\Vehicle Spy 3 directory.
- Load CANTraining.vs3 by clicking on File → Open and choosing CANTraining.vs3. This should be located in the \Program Files\Vehicle Spy\Data Directory\Default directory.
- About the VS3 File: CANTraining.vs3 has several function blocks that simulate a vehicle's data. You can run this using your neoVI while connected to your laptop, or run it stand-alone in 3rd Generation neoVI hardware. We'll be running this stand-alone in our IEVB board.
- DO NOT RUN this VS3, you need to be offline to do the next step..

2.3.2.2 Load VS3 into IEVB

- Click on Tools → Utilities → CoreMini Console... This is the utility that converts your function blocks into a stand-alone version which will run on your IEVB board.
- In the section entitled Send to Network Device, make sure HS CAN is chosen and click on Send. You'll get two choices – Node A or Node B, which represent the two CAN/LIN nodes on the IEVB. Select Node A and send the CoreMini to Node A with storage device is SD Card. If there are no error messages, then click on OK to clear the dialog box.
- So you don't have unexpected things coming from Node B, we need to clear out Node B. To do that, we send a "blank VS3" to Node B.
- In Vehicle Spy click on File → New. This unloads the previous VS3 and starts with a blank slate.

- Again, click on Tools → Utilities → CoreMini Console... We'll load this "blank slate" into Node B this time.
- Go to the Send to Network Device area, make sure HS CAN is chosen and click on Send. Double-click on Node B to send that "blank slate" Node B. If there are no error messages, then click on OK to clear the dialog box.

2.3.3 Activity C: Make your own CAN network

2.3.3.1 Part 1: Make a Transmit Message

- Open Vehicle Spy, and then click on Spy Networks Messages Editor.
- Click on the Transmit button, and then make sure that the pull-down to the right of the Transmit button says HS CAN.
- To the right of the HS CAN pull-down, click on the [+] sign. A blank transmit message will appear.
- You can make changes in the row that appeared, or in the Setup window below. Make the following choices:
 - Description: NodeB_MSG
 - Arbitration ID: 300
 - DLC (Length): 8
 - B1 through B8: Type in FF FF FF FF FF FF FF FF.
- This message will transmit a static 8 bits of FF repeating.

2.3.3.2 Part 2: Decide how it will be transmitted

- Click on Spy Networks → Tx Panel. The Tx Panel is the 2nd half of a transmit message in Vehicle Spy – first you create it, and then you decide how it will be transmitted.
- You will see on the left side of the view that NodeB_MSG is listed. There are several ways to transmit a message in Vehicle Spy, but we'll choose the simplest: Go to the Rate column and double-click where it says 'None'. You will get a drop-down list, choose 0.010.

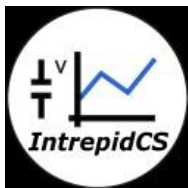
2.3.3.3 Part 3: Send CoreMini to Node B

- Click on Tools → Utilities → CoreMini Console...
- Go to Send to Network Device, make sure HS CAN is chosen & Storage is SD Card and node is B
- Click on Send to send the CoreMini to Node B.
- If there are no error messages, then click on OK to clear the dialog box.
- Save your VS3 as NodeB.vs3 by clicking on File → Save.

2.3.3.4 Part 4: Monitor your simulated network

- At this point, you have Node A transmitting several different messages (from CANTraining.vs3), and Node B is sending out the message you created. The easiest way to see this is to use our neoVI and Vehicle Spy, where it's easy to see all the messages and filter to the one you want.
- Click on the tab that says Messages Editor, click where it says NodeB_MSG (you should see a dashed box highlight the name. Then right-click on the name, and choose Copy Receive. This copies your transmit message so it's decoded as we monitor the simulation we've made.
- Like the previous activity, click on the down arrow next to the aqua colored Start button, and you'll get a list of choices. Choose Run Monitor Only. Now the neoVI will listen to your network.

3. Contact Us:



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