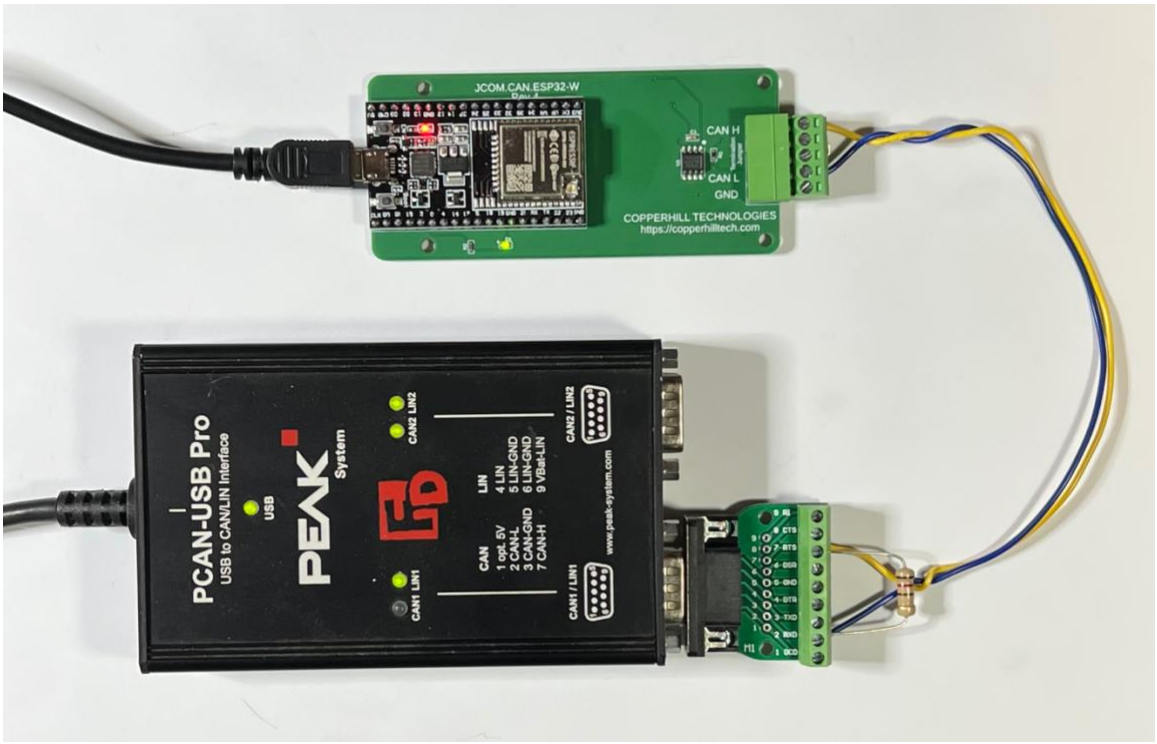
Testing the SAE J1939 to USB Gateway with the PCAN-USB Pro

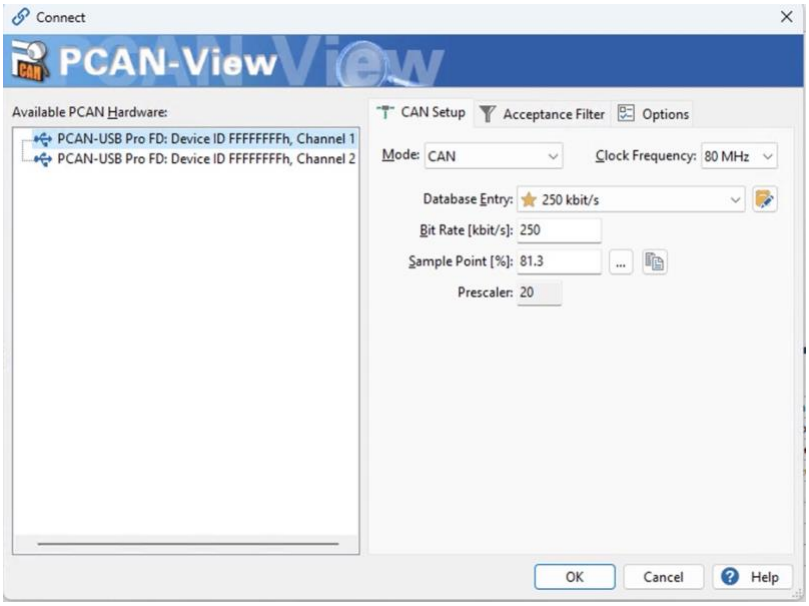
The below image shows the hardware setup between our J1939-USB device and the PCAN module:



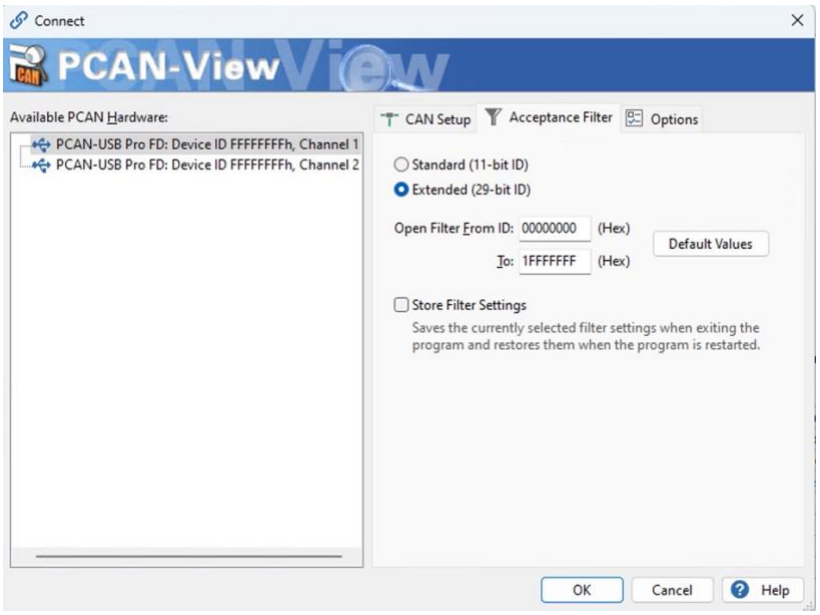
Both devices are terminated with a 120 Ohm termination resistor.
CAN_H = Yellow – Pin 2 on the DB9 connector
CAN_L = Blue – Pin 6 on the DB9 connector

PCAN-View Setup

Make sure, the PCAN-View is set up to support *250 kbit/sec*:



Make sure, the PCAN-View is set up to support *Extended (29-bit ID)* mode:

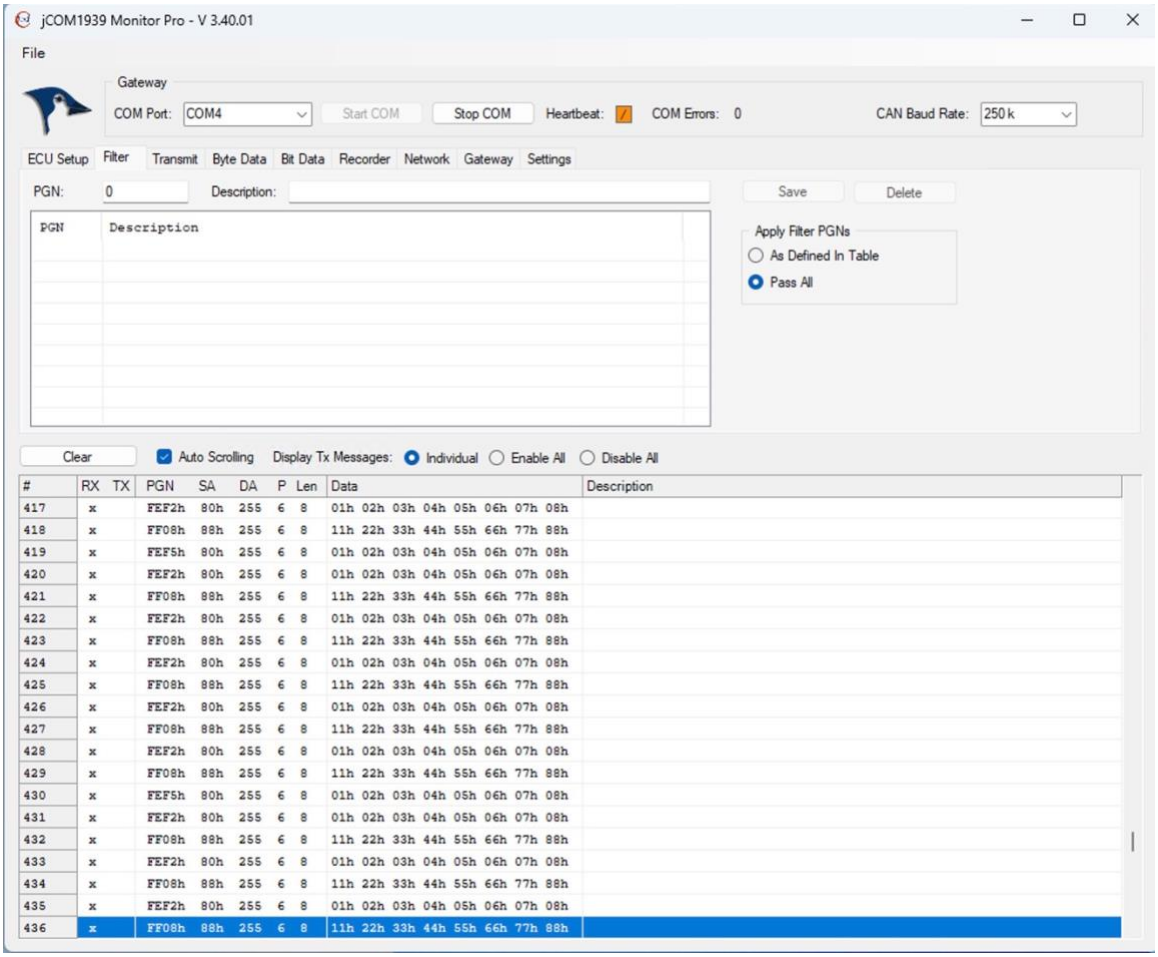


In the *Transmit* section, we have set up three 29-bit CAN data frames (PGNs):

18FEF280h		8	01 02 03 04 05 06 07 08	☑ 200	93	Time	
18FEF580h		8	01 02 03 04 05 06 07 08	☑ 1000	19	Time	
18FF0888h		8	11 22 33 44 55 66 77 88	☑ 200	93	Time	Test

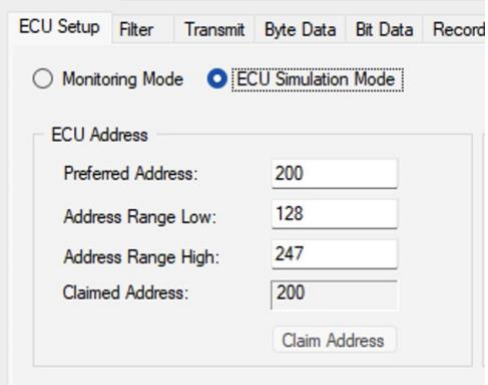
JCOM1939 Monitor Setup

In our setup, we use COM4. In the *Filter* section, click on *Pass All*:

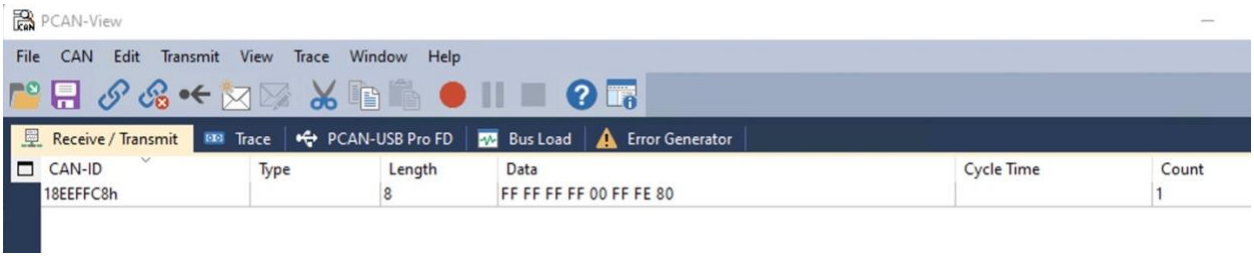


You should see the data traffic as shown above.

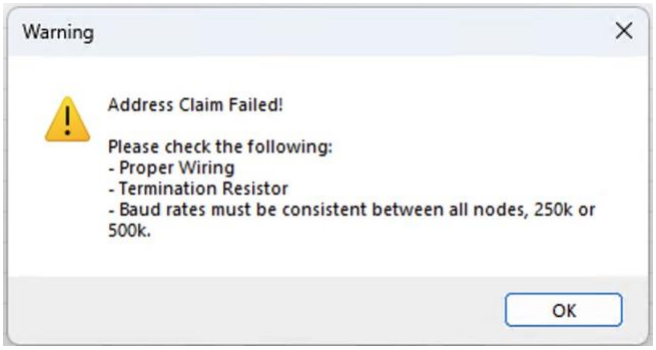
In the ECU Setup section click on *ECU Simulation Mode*, then click on the *Claim Address* command button:



In our example, we chose node address 200. On the PCAN-View screen, you should see the received Address Claim message:



If the Address Claim fails, the JCOM1939 Monitor will post an error message:



In our setup, we just removed the CAN_H, CAN_L connection to simulate the error.

In our experience, most such problems are caused by faulty wiring or missing termination resistors.

Wiring

It may sound obvious, but please verify that CAN_H is connected to CAN_H and CAN_L is connected to CAN_L.

Also, for a first test, keep the wiring as simple as possible. For a setup like ours, regular wires will do, i.e., there is no requirement for shielded cables.

Termination Resistors

Please be aware that a CAN Bus network requires termination resistors at each end of the network: