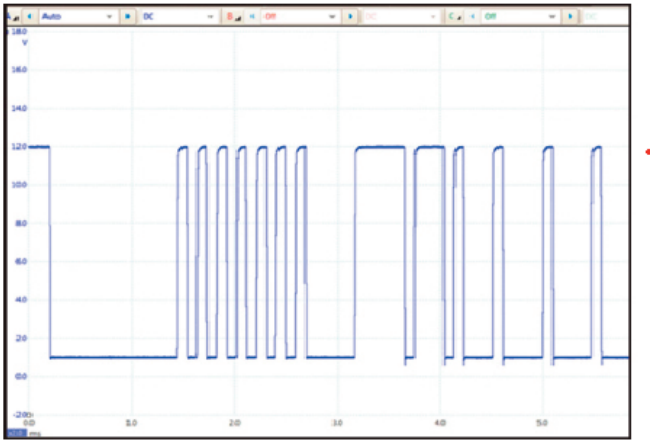
# A sluggish 2013 Skoda Superb 1.6 TDi that would also not Stop/Start

The customer complaint was that on starting, there is no throttle response for several seconds and the idle speed is lower than normal. Also, the Stop/Start system was non-functional, and the vehicle lacked initial performance when pulling away from a stop. The only fault stored in memory was the battery monitoring sensor.

The customer recently had an Alternator replaced, and was convinced all the issues developed after this was fitted. The charge rate was checked and this was satisfactory, 14.4 volts at idle and the battery tested good. As the only code was for the IBS (Intelligent battery sensor), this was the focus of the initial diagnosis.

As the workshop had little experience with Local Interconnect Network (LIN) signals, the helpline was called to assist. We gave the garage the voltage levels for the LIN signal. The garage used their Picoscope to inspect the signals on the LIN network at the IBS. The battery supply was present, but the LIN only showed 0.6 volts. Checking the LIN diagram for the charging system showed only 2 components other than the IBS module: the Alternator and Controller Area Network (CAN) diagnostics module.

As the customer had said that the problem started after an alternator replacement, the alternator was disconnected. As soon as the alternator was disconnected, the LIN returned to a familiar signal.



**A typical LIN signal is a random digital signal where the High is around 80% of the system voltage and the LOW is around 20%**

It was then discovered two different alternators were offered for this vehicle, with only one being compatible with Stop/Start. The Skoda had been fitted with the wrong alternator, and it pulled down the LIN signal and caused all the customer complaints. Once a proper Stop/Start alternator was fitted, the codes were cleared and the throttle response was now improved, low end power restored and Stop/Start functioned correctly.

A general rule to remember is that a typical LIN signal is a random digital signal where the Signal High is above 80% of the system voltage, and the Signal Low is 20% system voltage.